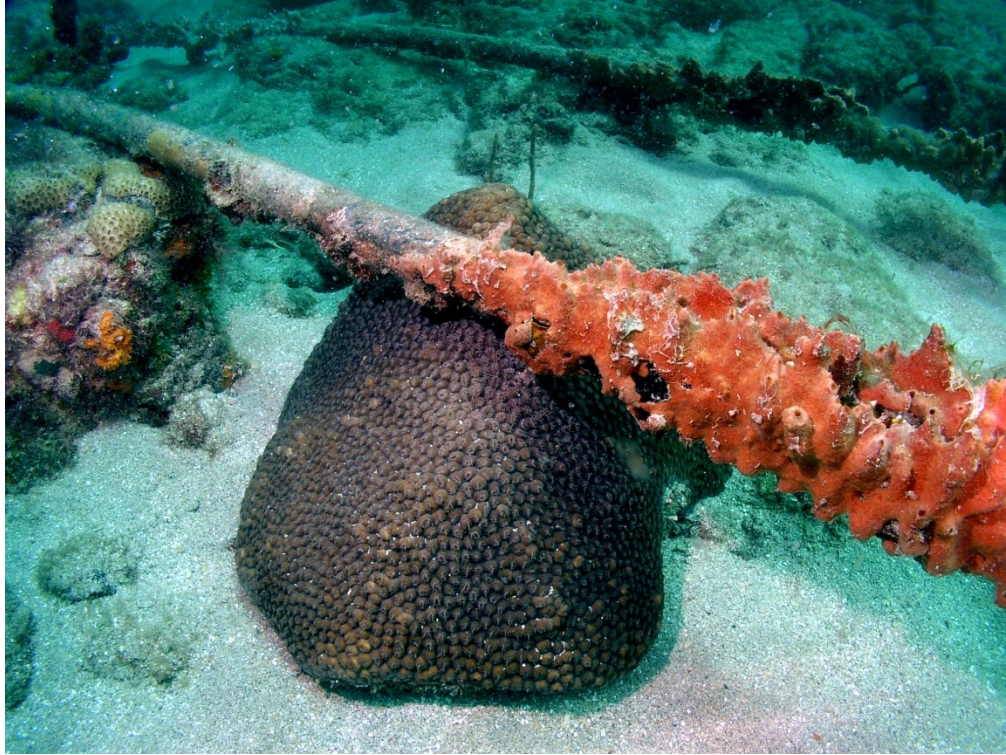


Policy Recommendations and Training to Improve Agency Permitting, Compliance, and Enforcement for Coral Resource Conservation in Southeast Florida



February 2011

**Southeast Florida Coral Reef Initiative (SEFCRI)
Maritime Industry and Coastal Construction Impacts (MICCI)
Local Action Strategy Project 4, 21, 23, 24 - Phase 2**



Southeast
Florida
Coral Reef
Initiative



*Florida Institute
of Technology*

Policy Recommendations and Training to Improve Agency Permitting, Compliance, and Enforcement for Coral Resource Conservation in Southeast Florida

Final Report

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Maritime Industry and Coastal Construction Impacts (MICCI)
Local Action Strategy Combined Project 4, 21, 23, 24**

&

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Executive Summary

The Southeast Florida Coral Reef Initiative (SEFCRI) Maritime Industry and Coastal Construction Impacts (MICCI) Combined Project 4, 21, 23, and 24 examined current local, state, and federal compliance and enforcement (C & E) issues relating to coastal construction permits for projects impacting coral reef and hardbottom resources. This project was completed in two separate Phases. Phase 1 included data mining of permit special conditions of local coastal construction project permits, interviews with field level enforcement staff to determine the perceived enforceability of those conditions, any overall views on how to increase compliance and enforcement within their respective agencies, and any lessons learned. The final Phase 1 report included overall lessons learned from the interviews with enforcement staff (e.g., potential ways to increase enforcement effectiveness, etc.) and recommendations regarding standardized permit special conditions. The Phase 1 report is available for download from the website: <http://www.dep.state.fl.us/coastal/programs/coral/reports/>

Phase 2, the present report, built on the work of Phase 1 by conducting an in-depth analysis of legal and regulatory issues that arose during Phase 1. Phase 2 also included interviews with mid- and high-level agency personnel to share the results of Phase 1, to better understand C & E constraints, to seek methods to address identified constraints, and to seek avenues for better processes to leverage the scarcity of financial and human resources affecting all agencies involved. The Phase 2 final report summarizes all project findings includes suggestions and conclusions at the following scales: 1) overview of summary comments, and 2) points relevant to individual agencies or multi-agency summaries. Phase 2 also developed an array of awareness training materials for agency staff contained within separately available Powerpoint files (totaling over 170 slides within three units) and information cards for field use.

The perception remains that coral reef and hardbottom resources in the southeast Florida region (Martin, Palm Beach, Broward, and Miami-Dade counties) are degrading more than they should under established legal and regulatory programs. A significant part of the damage is perceived to occur due to gaps in the legal and regulatory permitting and authorization procedures at various agency levels, inadequate compliance activities, and inadequate enforcement activities.

Whether involving administrative protocols, performance accounting, supply chains, or a dozen other categories, many major industry and government entities that pursue optimization of complex systems establish *best management practices* (BMPs) to measure and meet their goals. Methods to formally pursue and measure attainment of BMP goals are numerous and include diverse quality control (QC) and quality assurance (QA) practices. Given the political, spatial, and temporal complexity of multi-agency permitting activities that involve challenged environmental resources, the adoption of

standardized, moderately ambitious, and measurable BMPs within complex permitting systems is highly warranted.

Optimizing the front end of an applicant's project (the permitting process) will reduce the need for C & E actions on the back end. Given the relatively unique attributes of many permitting systems, best management protocols within administrative permitting and C & E activities are captured by the phrase *best permitting practices* (BPPs). The following array of hierarchical recommendations derives from best practice concepts. Once started, perhaps through an office-specific BPP program to implement specific permit process modifications, other steps can be assembled more easily. Ultimately, the performance of both the front end permitting and back end C & E can improve, perhaps synergistically.

Final Report Findings

Summary recommendations or statements include the following bullets; more specific mechanisms to achieve these recommendations are within subsequent sections.

- The increased agency coordination recommended in Phase 1 could likely be accomplished through small modifications to the informal networks already in place between some agencies. This would entail focused effort within each agency to ensure that network BPPs are codified at least informally and extend beyond individual relationships (due to the frequency of transfers);
- Compliance with permit conditions can be increased at all levels by making permits as clear, concise, and consistent among agencies as reasonably possible;
- The agencies involved in permitting directly related to corals and coral habitat [U.S. Army Corps of Engineers (USACE) and Florida Department of Environmental Protection (FDEP)] should develop or complete the process of developing template special conditions for coral resource protection. Special condition templates, however, should not impede agency flexibility and permit-specific decisions.
- Creation of an interagency task force to enhance permit coordination should be considered. In addition to developing within and between agency BPPs, this group could also evaluate special condition templates and ensure all agencies are engaged and participate in template use and revision;
- Enact recommendations below to increase interagency coordination on C & E, particularly among USACE and National Marine Fisheries Service (NMFS);
- Develop interagency standards for acceptable methods, monitoring standards, and reporting requirements for activities such as benthic and water column sediment monitoring and artificial reef construction;
- Florida resource agencies have limited authority to encourage protection of corals outside of three nautical miles in the southeast Florida region;

- USACE possesses limited permitting authority beyond the three nautical mile limit in southeast Florida, but USACE has not consistently exercised this authority; additionally, USACE enforcement capacity beyond the three nautical mile limit is very weak due to a lack of authority to impose administrative penalties.

At the scale of specific primary agencies, recommendations include:

National Marine Fisheries Service (NMFS)

- NMFS and the USACE could develop a mechanism wherein both agencies coordinate on the information needed by USACE to evaluate compliance with permit conservation recommendations by NMFS. If structured efficiently, such coordination could lever internal NMFS reporting into an additional resource for USACE enforcement work and would strengthen existing mechanisms. Successful implementation of this recommendation would require both increased coordination and greater resources, as NMFS is currently very limited in their review activities due to resource constraints;
- There continues to be a significant gap in independent monitoring activities for open-water areas. NMFS should continue to recommend independent, third-party monitoring as a required permit condition for projects with a potential for significant environmental impact if not carefully conducted (e.g. beach nourishment projects near coral resources);
- When a USACE permit requires issuance of a biological opinion (BO), NMFS should add the independent monitoring as a legally-binding term and condition of the BO for large projects with potentially significant impacts.
- NMFS should investigate the feasibility of establishing regulatory criteria under the Endangered Species Act (ESA) to determine what impacts constitute “destruction or adverse modification” of critical habitat; such regulations could replace the “working definition” of adverse modification that has developed in response to legal challenges to existing regulations.
- Ensure that coral resource concerns are more carefully addressed in the next 5-year review of USACE nationwide permits by having meetings between USACE and NMFS to address potential coral impacts from activities that might qualify for nationwide or regional general permit use.

U.S. Army Corps of Engineers (USACE)

- Cooperatively promote adoption of administrative penalties authority for USACE to enforce permits issued under section 10 of the Rivers and Harbors Act (RHA) and evaluate potential for increased jurisdictional reach of section 404 of the Clean Water Act (CWA) beyond three nautical miles. Both of these actions

would address a dearth of effective protection for coral resources in southeast Florida that are in federal waters beyond three nautical miles from shore.

- USACE should adopt a permit tracking system that communicates with other agency systems (e.g., FDEP) and that can alert staff to send reminder letters when USACE fails to receive timely self-certification letters. Similar basic permit tracking subsystems of this type are currently used across FDEP offices.
- For improved coordination, USACE should submit electronic copies of new permits for coastal construction to FDEP. This will close the loop since USACE receives the FDEP permit as a requirement prior to federal permit issuance.

Florida Department of Environmental Protection (FDEP)

- FDEP requires increased funding and resources for C & E activities in the Bureau of Beaches and Coastal Systems (BBCS); increased funding and resources should be accompanied by: 1) documentation of increased interagency cooperation in monitoring and enforcement and 2) development and implementation of specific monitoring criteria for construction near coral reef and hardbottom resources;
- Completion of rulemaking on trucked sand fill under the Coastal Construction Control Line (CCCL) program to include sediment standards and other criteria, such as color, already applied to beach nourishment projects is encouraged;
- FDEP and USACE should evaluate the possibility of FDEP forwarding “Notice of Commencement” documents to USACE for compliance purposes when USACE is not the permittee. This would be particularly useful if USACE had a computer tracking system, similar to FDEP, that would notice missed report deadlines.

Coral Reef Resource Awareness Training

Current regulatory personnel, whether working directly or indirectly with C & E issues, have expressed a desire for training on their agency protocols and to improve inter-agency coordination. There is also a need for coral C & E training materials for new hires. Periodic training is also an opportunity to sharpen partnering *between* permitting and C & E staff within and among agencies. It is clear that robust training is a fundamental BPP that can improve C & E efficiency.

This project developed a modular awareness training package that can be employed in desktop, classroom, and field venues to improve C & E effectiveness. Given the diverse relationships between C & E and permitting, many aspects of the latter are also emphasized in these materials. The training materials are based upon three Powerpoint® slide show units to be administered in individual or group-based learning environments:

- Unit 1: *Overview of Corals and Hardbottom Resources in Southeast Florida*

- Unit 2: *Rules and Regulations Involving Corals in Southeast Florida*
- Unit 3: *Permitting and Field Approaches for Efficient C & E*

A variety of means to administer and customize this training are possible. Agencies are encouraged to refine these materials through time to optimize effectiveness in staff permitting, and C & E training. Assessment questions are included on the final slide of each unit to assist agency customization. In addition to intra-agency administration of these materials, periodic inter-agency training among agencies that must coordinate on varying rules could substantially enhance coordination over time. The training materials are supplemented by this Final Report (in paper and CD form), PDF versions of many of the core documents (on the same CD), and water-proof field cards describing key agency administrative rules and coral biology.

The awareness training materials will be sent to agency points of contact and distributed to other offices as identified in early 2011. In addition to dissemination options outlined above, supervisory personnel should be involved at intervals to answer questions and to assist the development of improved training and agency coordination protocols. These original training materials have the potential to evolve into increasingly valuable intra- and inter-agency tools for permitting and C& E as a function of customization by agencies over time.

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List of Acronyms

AA.....	SEFCRI’s Awareness and Appreciation Focus Team
BBCS.....	FDEP Bureau of Beaches and Coastal Systems
BPP.....	Best Permitting Practices
BO.....	Biological Opinion
BOE.....	Bureau of Ocean Energy
C & E	Compliance and Enforcement
CCCL.....	Coastal Construction Control Line
C.F.R.....	Code of Federal Regulations
CFX.....	Columbia Florida Express (cable)
CRCP.....	Coral Reef Conservation Program
CWA.....	Clean Water Act
CZMA.....	Coastal Zone Management Act
DERM.....	Miami-Dade Dept. of Environmental Resources Management
DOJ.....	Department of Justice
DRP.....	Division of Recreation and Parks
DSL.....	Division of Submerged Lands
EEZ.....	Exclusive Economic Zone
EFH.....	Essential Fish Habitat
EFH-HAPC.....	Essential Fish Habitat – Habitat Area of Particular Concern
ELRA.....	Environmental Litigation Reform Act
EPGMD.....	Broward Co. Environmental Protection and Growth Management Depart.
ERP.....	Environmental Resource Permit
ESA.....	Endangered Species Act
FAC.....	Florida Administrative Code
FDEP.....	Florida Department of Environmental Protection
FDOU.....	SEFCRI’s Fishing, Diving, and Other Uses Focus Team
FS.....	Florida Statute
FWC.....	Florida Fish & Wildlife Conservation Commission
FWCA.....	Fish and Wildlife Coordination Act
HCP.....	Habitat Conservation Plan
ISO.....	International Organization for Standardization
JCP.....	Joint Coastal Permit
LBSP.....	SEFCRI’s Land-Based Sources of Pollution and Water Quality Focus Team
LE.....	Law Enforcement (can be within FDEP, FWC, NMFS, others)
MICCI.....	SEFCRI’s Maritime Industry and Coastal Construction Impacts Focus Team
MPRSA.....	Marine Protection, Research, and Sanctuaries Act
MSA.....	Magnuson–Stevens Act
NMFS.....	National Marine Fisheries Service
NOAA.....	National Oceanic & Atmospheric Administration

NOV.....	Notice of Violation
NTU.....	Nephelometric Turbidity Units
OCSLA.....	Outer Continental Shelf Lands Act
OGC.....	Office of General Counsel
POC.....	Point of Contact
PUA.....	Possible Unauthorized Activity
RHA.....	Rivers and Harbors Act
ROV.....	Remotely Operated Vehicle
RPA.....	Reasonable and Prudent Alternatives
RP.....	Responsible Party
SAFMC.....	South Atlantic Fisheries Management Council
SAL.....	Special Activity License, FWC
SED-ERP.....	Southeast District ERP Section, FDEP
SEFCRI.....	Southeast Florida Coral Reef Initiative
SFWMD.....	South Florida Water Management District
SLERP.....	Submerged Lands and Environmental Resources Program
SOP.....	Standard Operating Procedures
SSL.....	Sovereign Submerged Lands
USACE.....	United States Army Corps of Engineers
USEPA.....	United States Environmental Protection Agency
U.S.C.....	United States Code
U.S.C.RTF.....	United States Coral Reef Task Force
WMD.....	Water Management District

I. Introduction

I.A. The Southeast Florida Coral Reef Initiative

In 1998 an Executive Order of the President established the U.S. Coral Reef Task Force (U.S.C.RTF) to protect coral resources. In 2002, the U.S.C.RTF adopted the “Puerto Rico Resolution” which called for the development of Local Action Strategies (LAS) by each of its seven member U.S. states, territories, and commonwealths. These LAS are locally-driven roadmaps for collaborative and cooperative action among federal, state, territory and non-governmental partners, which identify and implement priority actions needed to reduce key threats to valuable coral reef resources.

The goals and objectives of the LAS are linked to those found in the U.S. National Action Plan to Conserve Coral Reefs, adopted by the U.S.C.RTF in 2000. With guidance from the U.S.C.RTF, the Florida Department of Environmental Protection (FDEP) and the Florida Fish and Wildlife Conservation Commission (FWC) coordinated the formation of a team of marine resource professionals (state, regional, and federal), scientists, non-governmental organization representatives, and other coral reef stakeholders. This team, named the Southeast Florida Coral Reef Initiative (SEFCRI) Team, gathered to develop LAS targeting coral ecosystems from Miami-Dade County through Broward, Palm Beach, and Martin counties. This region was chosen because its reefs are close to an intensely developed coastal region, with a large and diverse human population. Prior to the development of the SEFCRI, there was no coordinated management plan proposed for reefs located north of the Florida Keys or Biscayne National Park.

Led by the FDEP Coral Reef Conservation Program (CRCP), the SEFCRI is targeting four areas that address threats to coral reef ecosystems. The four focus areas are: (1) Land-Based Sources of Pollution (LBSP), (2) Maritime Industry and Coastal Construction Impacts (MICCI), (3) Fishing, Diving, and Other Uses (FDOU), and (4) Awareness and Appreciation (AA). The SEFCRI Team is comprised of four focus teams, one for each focus area, whose members are working with the FDEP-CRCP to develop and implement LAS projects. For additional information about SEFCRI and its mission, consult the SEFCRI website at: <http://www.dep.state.fl.us/coastal/programs/coral/>.

I.B. The Maritime Industries and Coastal Construction Impacts (MICCI) Focus Team and Its Projects

The MICCI Focus Team was formed to address impacts to southeast Florida’s coral reef ecosystems associated with coastal construction and maritime industry. Actions associated with these activities often result in intentional and unintentional impacts that change marine populations or reef community structure.

The key goals and objectives of the MICCI Focus Team are to:

1. Evaluate existing coastal construction and marine industry practices and their potential (or documented) impacts, and develop alternative or innovative methods and processes that significantly minimize or eliminate impacts to marine habitats.
2. Compile or develop appropriate procedures for responding to reef impacts and reef restoration and monitoring.
3. Review existing regulations and suggest modifications or promote new regulations (as appropriate).
4. Encourage compliance with existing regulations.
5. The projects developed in this study typically correlate in direct manners with the broader workgroup-scale goals from above.

II. MICCI Combined Project 4, 21, 23, 24

MICCI Combined Project 4, 21, 23, 24, examines compliance and enforcement issues related to permit special conditions that directly or indirectly protect coral reef resources; the goal is to support agency compliance and enforcement efforts. Support for enforcement of reef-related regulatory conditions can be insufficient to ensure appropriate compliance with conditions. This constrains assessment of known damages to reef communities through lack of identification of impacts from non-compliance and inability to pursue cases of non-compliance due to agency capacity issues (e.g. overburdened enforcement personnel, etc.). Maintaining an appropriate level of compliance, as required by rule or permit condition, is essential for agencies to protect coral resources and minimize enforcement actions. The administrative rules and statutory laws that are the basis for reef-related regulatory efforts require review and potential revision to enable agencies to execute reasonable enforcement actions that help deter initial or repeat offenses and, most importantly, to improve up-front compliance with appropriate, effective special conditions in permits.

This project, Phase Two of the overall MICCI Project 4, 21, 23, 24, aims to advance several MICCI Focus Team priorities. With the project team, MICCI Coordinator, and others, we have developed a comprehensive list of recommendations that can enhance coral reef and hardbottom resource protection by identifying issues, gaps, and overlaps that reduce compliance and hinder enforcement. We have also worked with agencies to identify methods and processes to increase the effectiveness of regulatory oversight and monitoring to improve compliance with permit conditions and optimize resource protection. Development of template special conditions for protection of coral resources is a central component of improving compliance and has also been addressed.

The project includes local, state, and federal permitting programs, and the use of the terms compliance and enforcement are not entirely standard among these programs. Administrative personnel provide several definitions depending on agency. For example, the Standard Operating Procedures (SOP) of NMFS are based on USACE policy which functionally considers *compliance* violations to involve a breach of specific details in a permit or license (e.g., a permittee fills more wetlands than the permit specified), whereas *enforcement* violations involve a breach of rules or laws in the absence of a permit or license (e.g., a non-permittee fills a wetland absent any kind of permit).

The FDEP and FWC appear to use functionally less distinctive characterizations wherein compliance cases involve simple corrective actions and un-penalized violations, while enforcement cases involve more complicated violations that involve potential fines. In the case of FDEP's Southeast District ERP program, there are no formal definitions for the two terms, but there are functional differences in compliance actions, which are always less formal than enforcement options. Compliance options can be used when the corrective actions required to bring a violation into compliance are not complicated, the responsible party does not have a history of non-compliance, and penalties are not appropriate. For example, if an inspector finds a small dredge and fill violation in a backyard, the owner did not know about the requirement for a permit, and the owner agrees to restore the area quickly, the case can be resolved without the need for a more formal enforcement. The inspector could reach an oral agreement with the owner for the restoration and could send a letter memorializing the agreement. The inspector should always follow up to ensure the promised restoration was completed on time and in an acceptable manner. FDEP BBCS appears to use a similar functional approach with a focus on consequences. For example, the process can be cumulative: several compliance violations (which can include reporting failures), can ultimately trigger an enforcement action.

We do not want to over-emphasize terminology but seek to at least acknowledge diversity in use, noting the apparent differences above between local, state, and federal agencies. To recognize the variability inherent in the use of these terms, this report implicitly defers to the agency-specific working usage of the terms compliance and enforcement (C & E) as summarized above.¹

If violations of agency regulations occur, whether permitted or unpermitted, the back end of enforcement will often involve penalties. The penalty structures that are

¹ The terminology issues can be even more complicated and potentially inconsistent. For example, notwithstanding the supposed distinction between enforcement and compliance, Florida Statutes call both a "violation." See, e.g., Fla. Stat. §403.161(1) (2010). The State of Florida's DEP has authority to pursue administrative or civil remedies for violations, Fla. Stat. §403.121 (2010), as well as criminal penalties under certain circumstances. Fla. Stat. §403.161 (2010).

available when enforcement actions become necessary are typically tiered in severity according to the actions of the responsible party (RP), and vary among agencies and their differing offices. We address violations and penalties at intervals in this report and summarize fundamental violation and response protocols in the awareness training material, particularly Training Unit 3 on *Permitting and Field Approaches for Efficient Compliance and Enforcement*.

We will follow these informal distinctions for the purposes of this document - *administrative penalty*: a penalty that is applied only within an administrative agency, without any involvement of a county, state, or federal court; *judicial penalty*: a penalty that is administered by a civil court and can be punishable by a fine, but not incarceration; and *criminal penalty*: a penalty administered by a criminal court that may involve a fine and incarceration. FDEP's Office of General Counsel (OGC) uses the prior terminology and considers both administrative and judicial actions to be categories of *civil* actions. Federal agencies appear to use very similar criteria; however, the state term *judicial*, is typically replaced by the term *civil* in federal parlance. Our approach emphasizes the fact that successful up-front promotion of compliance without violations is always a preferred alternative to an enforcement action, a pattern sought in many other realms of marine resource protection (e.g., fishery regulation enforcement and protected area boundary enforcement).

II.A. Phase 1

Coral reefs can be very sensitive to environmental impacts and disruption from both direct and indirect impacts. Different coastal construction and maritime industry activities that may harm corals require permits from local, state, or federal authorities.

Phase 1 of this project reported that some of the most common coastal construction and marine industrial activities that may impact corals include the following:

- **Shoreline Stabilization:** *armoring (groins, jetties, seawalls, riprap, breakwaters) or dredge and fill activities (beach nourishment and dune construction)*. Hard stabilization can indirectly impact corals through burial of habitat, sedimentation, or turbidity during construction. After construction, indirect impacts to corals may include increased wave energy refracted from armoring and increased turbidity. The "soft" stabilization technique of nourishment can directly impact corals through burial and increased sedimentation and turbidity. These direct impacts can occur during dredging or after fill placement as the new sand is redistributed by the dynamic nearshore physical environment. Sand placed on uplands can impact corals when the sand interacts with waves. In either case, inappropriate sand types dramatically increase the likelihood of turbidity and sedimentation impacts.
- **Dredging Operations:** *expanding navigational access or supplying sediments for beach nourishment projects*. The focus in this category is primarily on shipboard

operations of the actual dredge plant during on-site pumping activities. Dredging may directly damage coral during the use of dredging equipment (i.e.—spud placement, cable dragging, drag-arm placement) or from errors in navigation leading to unintended coral impacts. Indirect impacts may include sedimentation or turbidity levels that are harmful to corals.

- **Port Maintenance and Expansion:** *channel deepening and widening for expanded access for deep-draft vessels, and associated maintenance dredging.* These activities may require large-scale dredging and the use of blasting to remove consolidated materials resulting in the potential for a diverse range of impacts. Blasting may lead to direct loss of corals or associated hardbottom resources. Operation of dredges and construction vessels may lead to prop scarring, or cable or anchor damage. Work may also result in harmful sedimentation and turbidity. Deep channels and altered water-circulation patterns may decrease water quality, thus impacting corals.
- **Commercial Docks and Marinas:** *construction of piers, docks, and bulkheads.* Installation of bulkheads, docks, and piers may result in sedimentation and turbidity problems as well as prop scarring and dredging from construction traffic. Vessels and docks may decrease the light available for coral zooxanthellae. Water contamination impacting corals may result from unwrapped treated-wood pilings or from vessels and facilities. Maintenance or repair of pilings or bulkheads may impact corals that have recruited to such structures.
- **Energy and Utility Lines:** *installation of subaqueous fiber-optic cable, gas pipelines, or other linear infrastructure.* Installation of linear utilities on the ocean floor can result in direct impacts to corals by crushing during installation, “frac-out” of lubrication fluid during directional drilling, or by movement of the installed line. Anchor drag or damage from installation vessels may also occur, particularly during inclement weather.
- **Artificial and Mitigation Reefs:** *placement of rocks, cement, ships, etc.* Artificial reef creation is used as mitigation for impacts to coral reefs and coral habitat, but creation of artificial reefs may also cause harm to corals if the artificial reef material is placed on top of, or too near, coral resources. Anchor or cable drag of construction and deployment vessels may harm corals. Direct impact may also occur if the artificial reef material shifts during storm events, as is especially likely with old vessels used as artificial reefs. Indirect impacts may occur if artificial reef materials contain contaminants that may enter the water column.

II.B. Permit Programs and Permit Types Considered

Multiple permitting programs and types of permits at the local, state, and federal levels potentially control the activities on which the MICCI team focuses. Relevant permits typically use “special conditions” to specify activities, locations, and methods that help

protect coral resources from damage due to permitted activities. MICCI Combined Project 4, 21, 23, 24 specifically examines the permitting activities under: Section 404 of the federal Clean Water Act, section 10 of the federal Rivers and Harbors Act, State of Florida Environmental Resource Permits, State of Florida Joint Coastal Permits, and relevant local permitting programs. A brief description of these programs follows.

Clean Water Act, §404(b)

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredge or fill materials in waters of the United States, including certain wetlands. This permit is issued by the United States Army Corps of Engineers (USACE) according to environmental criteria developed by the United States Environmental Protection Agency (EPA).

Rivers and Harbors Act of 1899, §10

USACE reviews construction in waters of the United States under the authority of §10 of the Rivers and Harbors Act (RHA). This act gives USACE the ability to ensure that construction activities in waters of the United States do not cause obstructions to navigation and are not contrary to the public interest.

Florida Environmental Resource Permit (ERP) Program

Florida Statutes (F.S.), Chapter 373, Part IV authorizes the Environmental Resource Permit (ERP) program. An ERP review is required for any construction on, or use of, sovereign submerged lands of the state. ERPs are also required for many activities affecting surface water, including dredging or filling activities in wetlands or surface waters. This program allows for both protection of Florida's water resources and the public interest. Protection of the public interest allows for consideration of natural resources more generally, including marine productivity. The ERP program is implemented by Florida's water management districts (WMDs) and the FDEP. Under operating agreements between FDEP and the water management districts, most marine activities are permitted by FDEP.

Within FDEP, the Submerged Lands and Environmental Resources Program (SLERP) administers ERPs. The SLERP program has district offices throughout the state. The Southeast District Office typically administers ERPs involving coral resources of southeast Florida. FDEP's Bureau of Beaches and Coastal Systems (BBCS) incorporates this program as well, sometimes with and sometimes without additional Joint Coastal Permit (JCP) criteria described below. A primary Tallahassee office oversees administration of the SLERP program for all District offices and the BBCS.

Activities that require an ERP include, but are not limited to, coastal construction activities such as dredging and filling; construction of docks, piers, or seawalls; directional drilling; installation of submerged cables; installation of navigation aids; and mooring fields.

When coastal construction activities in the southeast Florida region are not sited on the sandy coast of Florida as defined by the JCP criteria below, but are still proposed to occur on or over state waters or sovereign submerged lands of the state, the SLERP Southeast District Office regulates the activity; the main exception is dredging and filling of channels or berths in deepwater ports, which may require an ERP through BBCS. Concurrent processing of proprietary authorization for use of sovereign submerged lands under Chapters 253 and 258, F.S., and distribution of the application to the USACE for the federal dredge and fill permit, if required, is also included in the ERP process.

Coastal Construction Control Line (CCCL) Program

The FDEP's BBCS has regulatory authority over coastal construction activities seaward of the Coastal Construction Control Line (CCCL) under Chapter 161, F.S. The BBCS has adopted coastal construction control lines along the sandy beaches of the state to establish an area of jurisdiction in which special siting and design criteria are applied for construction and related activities. These criteria may be more stringent than those already in place in the rest of the coastal building zone because of the greater forces expected to occur in the more seaward zone of the beach during a storm event. Anyone seeking to construct seaward of the CCCL, but landward of the mean high water (MHW) line, must obtain authorization for construction via a CCCL permit. CCCL projects may impact corals indirectly. For example dune construction requires a CCCL permit, and constructed dunes will usually interact with the water during storm events, leading to greater turbidity and sedimentation problems, particularly if the sediment used is not highly compatible.

The CCCL program also permits structures near beaches that can then contribute to increased beach nourishment or dune repair activities. Since beach nourishment and the dredging that it requires create a potential risk of damage to corals, CCCL permitting decisions may have an indirect impact on coral resources. Therefore, it may be advisable to more fully evaluate the indirect but potentially significant cumulative impacts of CCCL permit decisions on fill activities and sustainable coral management.

Joint Coastal Permit (JCP) Program

Chapter 373, Part IV, F.S., gives FDEP regulatory authority over activities that affect waters in the State of Florida. The JCP Program allows FDEP to concurrently process

applications for coastal construction permits, environmental resource permits, and sovereign submerged lands authorizations. The consolidation of these programs and the assignment of responsibility to a single bureau (BBCS) has eliminated the potential for conflict between permitting agencies and helped ensure that reviews are conducted in a timely manner. A copy of JCP permit applications are forwarded to the USACE for separate processing of a federal dredge and fill permit.

A JCP is required for activities that meet *all* of the following criteria:

- Located on Florida's natural sandy beaches facing the Atlantic Ocean, the Gulf of Mexico, the Straits of Florida or associated inlets;
- Activities that extend seaward of the mean high water line;
- Activities that extend into sovereign submerged lands; and
- Activities likely to affect the distribution of sand along the beach.

Activities that require a JCP include beach restoration or nourishment, construction of erosion control structures such as groins and breakwaters, public fishing piers, maintenance of inlets and inlet-related structures, and dredging of navigation channels that include disposal of dredged material onto the beach or in the nearshore area.

Broward County

Broward County entered into a delegation agreement with FDEP and the South Florida Water Management District in 2001 wherein the county issues and enforces Environmental Resource Licenses that do not conflict with ERPs reserved for FDEP and the South Florida Water Management District.² Primary language is contained within Broward County Code of Ordinances, Part ii, Code of Ordinances, Chapter 27 - Pollution Control. Managed by Broward County's Environmental Protection and Growth Management Department (EPGMD)

Miami-Dade County

This county has Class 1 permits similar to ERP based on memoranda with the FDEP Coastal Construction (Class I) Permitting Program: This local program issues permits required for work in, over, or upon tidal waters and coastal wetlands throughout all of Miami-Dade County. This includes authorizations required for several coastal construction activities that can affect corals. Managed by the Miami-Dade Department of Environmental Resources Management (DERM) Coastal Resources Section.

² The delegation agreement among Broward Co., FDEP and SFWMD is available at: <http://www.dep.state.fl.us/water/wetlands/docs/erp/BrowardCoDeleg.pdf>.

Martin & Palm Beach Counties

Neither of these counties have rules that specifically apply to coral management.³

II.C. Summary of Results from Phase 1

Phase 1 of this project included development of a database with over 600 permit special conditions, and included interviews with permitting staff from federal and state agencies.⁴

Phase 1 of this project involved developing a database of over 600 state and federal permit special conditions that potentially relate to the protection of coral reef resources. Forty-four to forty-eight of the special conditions were submitted to permitting staff at various USACE and FDEP offices. Each reviewer of the special conditions was asked to rate the conditions on a scale of 1 to 5. A “1” rating meant “completely unclear.” A “2” rating indicated “relatively clear, but still unenforceable.” A “3” rating signified “partially enforceable.” A “4” rating meant “generally enforceable, but could be improved.” Finally, a “5” rating indicated that the special condition was “well written and strongly enforceable.”

Some general results of this review included recommendations by staff to:

- Increase interagency cooperation on C & E;
- Use a date certain (that is legally-identifiable and enforceable) for all permit requirements;
- Use specific reporting requirements to minimize agency resources needed for site visits to determine project status or non-compliance issues;
- Develop a form for self-certification reporting (USACE);
- Improve organization of important contact information, dates, and special conditions within the permit to facilitate permittee compliance; this includes simplifying the writing of permits and using more bulleted lists in place of long, complex paragraphs;
- Simplify the process for applicants by increasing the uniformity of special conditions across agencies as much as possible;
- Use neutral 3rd parties for monitoring to help ensure unbiased monitoring information;
- Specify detailed methods for sampling and monitoring (i.e. – electronic turbidity monitoring);

³ Personal communication from Kathy Fitzpatrick, Martin County Coastal Engineer, November 2, 2009 (“Martin County does not regulate activities in the Atlantic Ocean.”).

⁴ Information available at:

http://www.dep.state.fl.us/coastal/programs/coral/reports/MICCI/MICCI_04_21_23_24_Phase1_Report.pdf.

- Require verified construction of mitigation and ensure that the mitigation fulfills established criteria for success prior to allowing project impacts to occur;
- Add detailed mitigation requirements for demonstrated impacts beyond those initially acknowledged in the permitting process.

In addition to reviewing special conditions, Phase 1 included interviews with federal and state permitting staff on issues related to coral reef protection, special conditions, and enforcement of special conditions. These interviews and other Phase 1 activities identified methods and processes to increase the level and effectiveness of regulatory oversight and compliance monitoring to improve compliance with regulatory conditions.

Phase 1 Results:

- For the USACE:
 - Desire of staff for increased interagency coordination;
 - Need for administrative enforcement authority under Section 10 of the Rivers and Harbors Act;
 - Emphasis by employees that a policy against them entering the water hampers USACE C & E activities;
 - USACE C & E benefits greatly from information received from other agencies about potential permit violations;
 - USACE typically does not enforce special permit conditions related to turbidity or other criteria related to water quality;
 - Lack of expertise about coral within USACE.
- For the FDEP Southeast District:
 - Severe lack of staff capacity, particularly in the dive team;
 - Deficiency in coral reef training and reference materials;
 - Desire by staff for increased interagency cooperation on C & E;
 - Desire for greater uniformity in monitoring requirements and permit conditions (with a suggestion for an interagency task force to establish more uniform special conditions);
 - Need for rulemaking to define certain vague terms that are used in permit conditions;
 - Suggestion for possibility of a certified or qualified third-party to conduct certain monitoring and sampling required by permit.
- For the JCP Section of FDEP BBCS:
 - Need for better compliance capacity (lack of staff, budget, equipment);
 - Desire for increased interagency coordination for C & E;
 - Staff perception of lack of support for using fines and penalties in cases of non-compliance;
 - Desire for greater support by upper management to use fines and penalties for violations.

- For the CCCL Section of FDEP BBCS:
 - Insufficient staff to conduct C & E activities;
 - Problems of access to the beach for C & E activities due to infrequent public access sites and lack of a 4-wheel drive vehicle and all terrain vehicle (ATV) to navigate difficult terrain;
 - Desire for interagency cooperation on C & E as a way to mitigate lack of human resources.

Phase 1 indicated the importance of supplying agencies with sufficient resources to accomplish their assigned missions. To support increased agency C & E efforts, it is also important to increase the awareness of the marine industry and the affected public to the economic and environmental benefits of regulatory compliance. However, this project primarily targets enforcement personnel in the local, state, and federal permitting agencies.

Despite the various permit programs and special conditions for coral protection in permits, the resources currently dedicated to support C & E efforts for reef-related regulatory conditions are not sufficient to ensure an appropriate level of compliance with the existing number and type of regulatory conditions. This contributes to impacts on reef communities through lack of identification of impacts from non-compliance and inadequate pursuit of corrective actions. To ensure an appropriate level of compliance during reef-related construction activities, as required by rule or permit condition, it is essential for regulatory agencies to increase review and enforcement actions. In addition, the laws that provide the basis for reef-related compliance efforts should be reviewed and, as necessary, revised to bolster the ability of regulatory agencies to execute reasonable enforcement actions that help deter initial or repeat offenses.

II.D Phase 2

The objective of Phase 2 of this project, including this report, was to delve more deeply into issues raised in Phase 1 and develop recommendations for statutory and regulatory changes. A primary purpose of Phase 2 was to foster development of minimum standard special conditions for coral reef protection that can be included in local, state, and federal permits. Phase 2 also examined the potential for, and impediments to, increased interagency cooperation on enforcement and compliance issues as a way to leverage scarce C & E resources; standardized minimum conditions for reef protection that serve as basic templates for various agencies could facilitate the potential for efficient interagency cooperation.

Phase 2 of this project built upon the work in Phase 1 by conducting legal analysis of certain issues raised in Phase 1 and by adding extensive consideration of the legal context within which permitting operates, especially the Endangered Species Act and

the Magnuson-Stevens Act. Phase 2 also incorporates considerations based on the listing of *Acropora* spp. corals as threatened under the Endangered Species Act, interviews with supervisory-level officials within the agencies interviewed for Phase 1, reviews of local permitting programs, evaluations of the potential for increased interagency cooperation in C & E, and development of recommendations for legal changes to address identified problems.

II.E Associated MICCI Projects

Some other MICCI projects have information relevant to the present project in terms of regulatory guidance, permitting, and sustainable coral management (Table 1). Some projects have secondary thematic overlaps including projects from the other three SEFCRI workgroups: Fishing Diving and Other Uses (FDOU), Awareness and Appreciation (AA), and Land-Based Sources of Pollution (LBSP).

Table 1. SEFCRI projects of relevance to MICCI Project 4, 21, 23, 24, including status. Completed projects at <http://www.dep.state.fl.us/coastal/programs/coral/reports/>.

Project Number	Project Topic
MICCI-FDOU 1	Coral laws and rules database, in progress.
MICCI 3	Emerging coastal construction technology workshop, completed.
MICCI 5, 10, 12	Information transfer regarding appropriate practices in coastal construction, in progress.
MICCI 6	BMPs for coastal construction, completed.
MICCI 7, 11	Permit conditions database, in progress.
MICCI 9, 25	Preventing anchoring/grounding impacts to reef resources, compl.
MICCI 18, 19	Guidelines for artificial reef siting and construction, completed.
MICCI 26	Cumulative impact methodology, completed.
MICCI-FDOU 27, 47, 48	Coastal project monitoring and evaluation, in progress.
FDOU 2, 5, 6, 7	Development of a marine regulat. awareness program, in progress.

Some of the overlaps within MICCI projects, and among AA and FDOU, involve the current project's coral awareness training materials specific to C & E (discussed later in this document and attached separately). The coordinators of two of the other SEFCRI focus teams (C. Boykin, AA, and J. Monty, FDOU) have been consulted regarding potentially overlapping materials. For example, various coral awareness materials of at least indirect utility have been developed within the AA workgroup, including:

[AA Project 2 - Media Kit Inserts](#) PDF - 273 KB

[AA Project 4 - SEFCRI portable exhibit](#) PDF- 969 KB

[AA Project 8 -Coral Reef Needs Assessment Study](#) PDF - 1.3 MB

[AA Project 9 - Inventory Existing Marine Education Programs](#) PDF - 116 KB

Additional information on the projects listed in Table 1 is provided in Appendix 1.

III. The Legal Context for Permitting and Coral Protection

This section begins with subsections on federal laws before moving on to state and local laws. The primary federal laws involved in coral resource protection for the purposes of this study are summarized in Table 2.

Table 2. Primary U.S. federal regulations involving coral resources. Consultation includes formal and informal. Turb: turbidity (sediments in water column); Sedim.: sedimentation (settling of sediments onto bottom). See list of acronyms on page 10. Blank cells: information not obtained. Table is for general guidance only, refer to the statute or rule and lead agency for legal interpretation and implementation.

Federal Statute or Administrative Rule	Lead C & E Agency	Consultation	Desk Permit	Field C & E	Impact Type	Penalty Structure		
						Admin.	Civil	Criminal
Clean Water Act Section 404(b) 33 C.F.R. § 323.2(e) Requires USACE permit for deposit of dredge or fill material in waters of the United States.	USACE	EPA NMFS FWS	Yes	Yes, limited	Turb, Sedim., Physical contact	USACE	USACE	EPA USACE
Endangered Species Act 50 C.F.R. § 17.3 Section 9: Prohibits “take” of Acropora corals; “take” for threatened corals includes “to harass, harm, ...wound, kill, ... or collect, or to attempt to engage in any such conduct.” “Take” also includes any “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, sheltering.” § 3(19) 16 U.S.C.	NMFS; USACE	NMFS for acroporids	Yes	Yes, limited	Turb, Sedim., Physical contact	USACE via CWA	USACE via CWA or RHA; NMFS	USACE via CWA or RHA; NMFS
Sustainable Fisheries Act Essential Fish Habitat (EFH) provisions include all coral habitats in the SAFMC, including the east coast of Florida.	USACE	NMFS, SAFMC	Yes	Yes, limited	Turb, Sedim., Physical	USACE (CWA or RHA)	USACE (CWA or RHA)	USACE (CWA or RHA)
Rivers and Harbors Act Sect 10 – Requires a USACE permit for structures or work affecting navigable waters of the US. 33 C.F.R. § 322.3. “Work” includes without limitation, any dredging or disposal of dredged material, excavation, filling, or other modification of a navigable water of the United States.”	USACE	NMFS	Yes	Yes, limited	Physical contact		USACE	USACE
Outer Continental Shelf Lands Act 43 U.S.C. § 1333(e) Extends potential geographic reach of Section 10 of the RHA to the reaches of the continental shelf for selected construction activities 33 C.F.R. §§320.2(b)	BOE	NMFS USACE	Yes	Yes, limited	Physical contact		USACE via RHA	USACE via RHA

III.A Magnuson-Stevens Act (Essential Fish Habitat consultation requirements)

The Magnuson-Stevens Act (MSA) recognized the value of fishery resources as well as their depletion.⁵ Pursuant to the MSA, NMFS promulgated regulations prohibiting persons from fishing for, harvesting, or possessing “prohibited coral” within the South Atlantic Exclusive Economic Zone (EEZ).⁶ Prohibited coral in the South Atlantic EEZ includes: fire corals, hydrocorals, stony corals, black corals, seafans, and all coral on coral reefs except for octocorals.⁷

The MSA as reauthorized in 1996 (the federal Sustainable Fisheries Act) sought to protect and restore fisheries by focusing on protecting habitat that supports each life stage of managed fisheries. The MSA defines Essential Fish Habitat (EFH) as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” Following the MSA mandate, the South Atlantic Fisheries Management Council (SAFMC) designated coral reef and certain hardbottom habitat areas as EFH in 1998 (NMFS 2008). This goal is pursued in part by requiring that USACE consult with NMFS for USACE activities (including activities authorized or funded by USACE) that may adversely affect EFH.

Permit regulations under the MSA involving coral are for fishing impacts and harvesting activities rather than marine industry and coastal construction activities. However, corals are unique in that they are managed species under the MSA and they themselves are EFH for many other managed species (SAFMC 2009, SAFMC 1983). The MSA requires “federal agencies to consult with NMFS regarding actions they authorize, fund, or undertake, or propose to authorize, fund, or undertake, that may adversely affect Essential Fish Habitat.”

These regulations also include all habitats designated as EFH-Habitat Areas of Particular Concern (EFH-HAPCs). EFH-HAPCs are subsets of the most valued EFH that are either: a) rare, b) particularly susceptible to human induced degradation, c)

⁵ 16 U.S.C. 1801(a).

⁶ 50 C.F.R. § 622.7(k); 50 C.F.R. § 622.4(a) (3)(iv) (Persons can be excepted from this prohibition with a permit for “scientific research activity, exempted fishing, or exempted educational activity.”).

⁷ 50 C.F.R. § 622.2 (“(1) Coral belonging to the Class Hydrozoa (fire corals and hydrocorals); (2) Coral belonging to the Class Anthozoa, Subclass Hexacorallia, Orders Scleractinia (stony corals) and Antipatharia (black corals); (3) A seafan, *Gorgonia flabellum* or *Gorgonia ventalina*; (4) Coral in a coral reef, except for allowable octocoral; and (5) Coral in an HAPC, including allowable octocoral.”); Fla. Admin. Code 68B-42.009 prohibits “take” or attempted take of “any sea fan of the species *Gorgonia flabellum* or of the species *Gorgonia ventalina*, or any hard or stony coral (Order Scleractinia) or any fire coral (Genus *Millepora*).”

ecologically important, or d) located in an environmentally stressed area. In southeast Florida, corals, nearshore hardbottom, and offshore hardbottom habitats are designated as EHF-HAPCs by the SAFMC under the Sustainable Fisheries Act⁸. In addition, HAPCs also protect corals in other areas based on the authority of the SAFMC fishery management plan for coral and coral reefs, and subsequent amendments (GM&SAFMC 1982).⁹ EFH consultations are undertaken by NMFS and follow a path based on the determination of potential adverse impacts (Figure 1). The federal agency conducting or authorizing an action (federal action agency) is responsible for making an initial determination on whether the action in question may adversely affect EFH for coral.¹⁰ If the federal action agency determines that EFH may be adversely affected, the agency “must provide NMFS with a written assessment of the effects of that action on EFH.”¹¹ In response, NMFS may recommend conservation measures if NMFS determines or receives information that EFH designated for coral would be adversely affected by agency action.¹² In cases in which NMFS provides conservation recommendations, the

⁸ The habitats designated as EFH-HAPCs in southeast Florida are “nearshore hardbottom (0-4 meters; 0-12 feet) off the east coast of Florida from Cape Canaveral to Broward County; offshore hardbottom (5-30 meter; 15-90 feet) off the east coast of Florida from Palm Beach County to Fowey Rocks; Biscayne Bay, Florida; Biscayne National Park, Florida; and the Florida Keys National Marine Sanctuary.”

⁹ The Fishery Management Plan Environmental Impact Statement for Coral and Coral Reefs and its amendments, prohibits taking of coral reefs, and, specifically, stony corals and black corals, fire coral and hydrocorals and two species of seafans. The plan provides for a limited harvest of soft corals or octocorals except the two prohibited species of seafans and establishes coral HAPCs. Within HAPCs, fishing with bottom longlines, traps, pots, and bottom trawls is prohibited. Several HAPCs have been designated in conjunction with the Oculina Bank, off Ft. Pierce on Florida’s East Coast. In addition, toxic chemicals may not be used to take fish or other marine organisms in or on a “coral area” including patch reefs, outer bank reefs, deepwater banks, and hardbottoms. Collection of dead coral or calcium carbonate rock (known as “live rock” in the aquarium trade) was prohibited and a live rock aquaculture permit system for the South Atlantic EEZ was established to encourage aquaculture of live rock as a substitute. The plan also established criteria for issuance of permits to take prohibited coral for scientific, research, and educational, purposes and a permit system for use of allowable chemicals and harvest of octocorals (50,000 colony annual quota in the EEZ).

¹⁰ 50 C.F.R.. §600.920(e)(1); Guidance for Integrating Magnuson-Stevens Fishery Conservation and Management Act EFH Consultations with Endangered Species Act Section 7 Consultations National Marine Fisheries Service (January 2001) (“For all Federal actions, the lead Federal agency determines the effects of the proposed action on EFH. If the action will have no adverse effect, then no EFH consultation is necessary.”) (<http://swr.nmfs.noaa.gov/hcd/guidance1.pdf>).

¹¹ 50 C.F.R.. § 600.920(e)(1) (“For any Federal action that may adversely affect EFH, Federal agencies must provide NMFS with a written assessment of the effects of that action on EFH....Federal agencies are not required to provide NMFS with assessments regarding actions that they have determined would not adversely affect EFH.”).

¹² MSA § 305(b)(4)(A) (“If the Secretary receives information from a Council or Federal or State agency or determines from other sources that an action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by any State or Federal agency would adversely affect any

“federal agency must respond in writing describing measures the agency proposes to avoid, mitigate, or offset the adverse impacts on EFH, or explain its reasons for proposing to proceed inconsistently with NMFS’ recommendations.”¹³

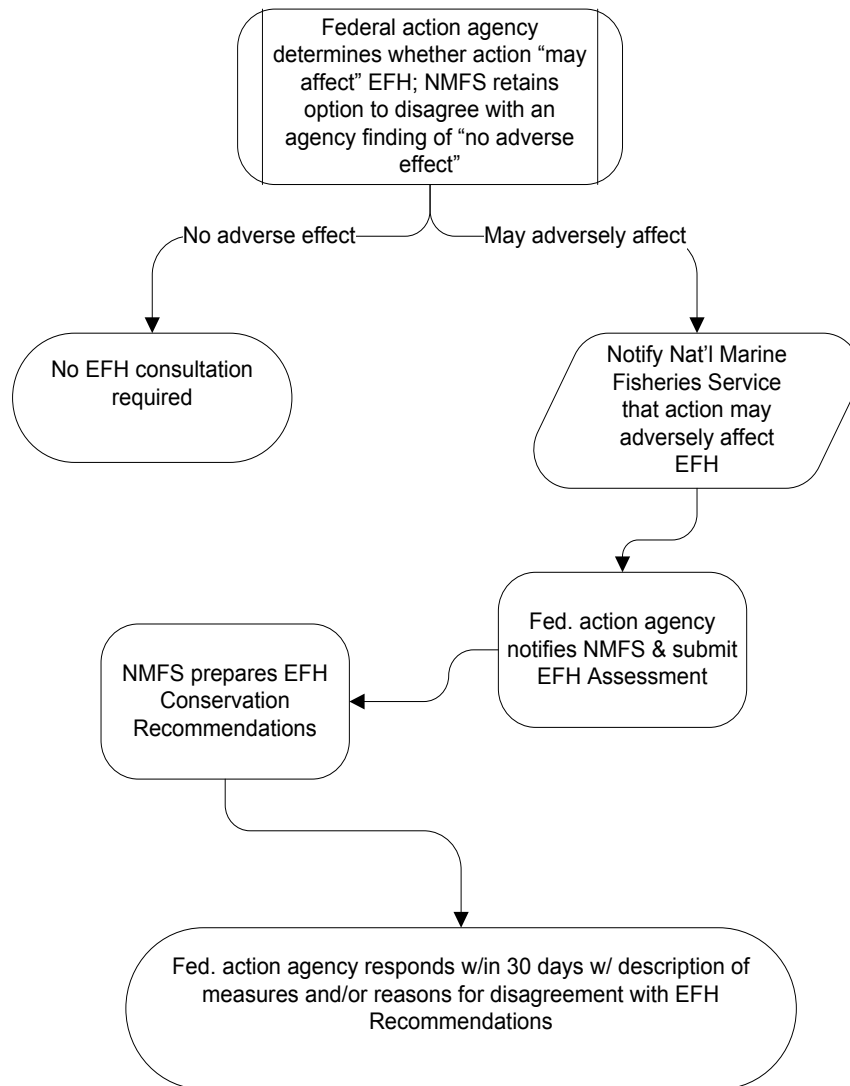


Figure 1. Simplified schematic of EFH consultation under the Magnuson-Stevens Act.

essential fish habitat identified under this Act, the Secretary shall recommend to such agency measures that can be taken by such agency to conserve such habitat.”).

¹³ 16 U.S.C. §1855(b) [MSA § 305(b)(4)(B)] (“Within 30 days after receiving a recommendation under subparagraph (A), a Federal agency shall provide a detailed response in writing to any Council commenting under paragraph (3) and the Secretary regarding the matter. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on such habitat. In the case of a response that is inconsistent with the recommendations of the Secretary, the Federal agency shall explain its reasons for not following the recommendations.”).

In the case of a response that is inconsistent with NMFS conservation recommendations, the agency must explain its reasons for not following the recommendations, including the scientific rationale for any disagreements with NMFS over the anticipated effects of the proposed action and the measures needed to offset such effects.

III.B Federal Endangered Species Act (ESA)

In addition to the MSA and EFH consultation, the Endangered Species Act (ESA) may play a role in USACE coral-related permitting in the southeast Florida region. This section gives a brief overview of the ESA as it relates to corals and then focuses on specific issues arising from the recent designation of critical habitat for protected corals. Before describing the legal protections of the ESA, it should be noted that consultation with NMFS only needs to take place by a federal agency under Section 7 of the ESA when there is federal nexus created by federal funding, authorization, or execution of a project.

Congress enacted the ESA of 1973 to protect endangered or threatened species and their ecosystems. The Secretary of the Interior and the Secretary of Commerce have joint authority to administer the ESA. The Department of the Interior administers the ESA through the United States Fish and Wildlife Service (FWS) and the Department of Commerce administers the ESA through the NMFS. Most marine species protected by the ESA, including coral, are under the authority of NMFS.

The ESA only protects species listed for protection.¹⁴ In 2006, NMFS listed two coral species, elkhorn coral (*Acropora palmata*) and staghorn coral (*Acropora cervicornis*), as “threatened” under the ESA.^{15,16} Section 9(a)(1) of the ESA prohibits the “take” of *endangered* species.¹⁷ In order to apply the ESA’s section 9(a)(1) prohibition on “take” to *threatened* corals, NMFS had to issue a rule pursuant to section 4(d) of the ESA explicitly stating that the 9(a)(1) prohibitions apply to staghorn and elkhorn corals.¹⁸ In the case of coral, the term “take” means to harm, kill, or collect coral or to attempt to engage in

¹⁴ Certain corals not listed as threatened or endangered still receive a measure of protection through the Magnuson-Stevens Act. *See supra* section on Magnuson-Stevens Act.

¹⁵ 71 Fed. Reg. 26852 (2006).

¹⁶ The FWC prohibits the molestation, harm, or harassment of pillar coral (*Dendrogyra cylindrus*), which is not protected under the ESA. FLA. ADMIN. CODE r. 68A-27.003.

¹⁷ Endangered Species Act of 1973, § 9(a)(1) [Note: this is 16 U.S.C. § 1538(a)(1)]

¹⁸ 50 C.F.R. § 223.208; 73 Fed. Reg. 64264 [“Section 4(d) of the ESA provides that, whenever a species is listed as threatened, the Secretary of Commerce (Secretary) shall issue such regulations as the Secretary deems necessary and advisable to provide for the conservation of the species. Such regulations may include any or all of the prohibitions in ESA section 9(a)(1) that apply automatically to species listed as endangered.”].

such activities.¹⁹ The ESA's prohibition of harming threatened species applies to individual members of the threatened species, so "harming even one" coral polyp is prohibited.²⁰ Dead elkhorn and staghorn coral, often representing significant habitat structures (especially the former species), are also protected under the ESA, because the ESA extends protection to the dead bodies of listed animals.²¹

The ESA has two types of habitat protection. First, the ESA protects all habitat of listed species from "significant habitat modification or degradation where it actually kills or injures wildlife."²² Second, the ESA also protects designated "critical habitat." Critical habitat is protected from "destruction or adverse modification."²³ The critical habitat for listed *Acropora* sp. only protects benthic habitat that is "essential to the conservation" (hereinafter "*essential feature*") of staghorn and elkhorn corals within an established geographical area in southeast Florida. NMFS determined that the *essential feature* is "natural consolidated hard substrate or dead coral skeleton that is free from fleshy or turf macroalgae cover and sediment cover" occurring in or less than a depth of 30 meters.²⁴ This *essential feature* is protected in southeast Florida as far north as 26° 32' 42.5" N at Boynton Inlet, Palm Beach County, but there are excepted areas below this northern boundary.

Critical habitat protections are implemented through the consultation process required by section 7(a)(2) of the ESA (Figure 2). This places an obligation on federal agencies to consult with NMFS if "any action authorized, funded, or carried out" by a federal agency may affect threatened coral or critical coral habitat.²⁵ The obligation to consult with NMFS applies to activities authorized by the USACE. This process begins by USACE making an initial determination of whether the proposed activity may affect

¹⁹ ESA, § 3(19) ("The term 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.").

²⁰ See *Sierra Club v. U.S. Forest Service*, 535 F.Supp. 2d 1268, 1299 (N.D. Ga. 2008) ("A taking of even one individual is prohibited.").

²¹ ESA, § 3(19) ("The term 'fish or wildlife' means any member of the animal kingdom... and includes any part, product, egg, or offspring thereof, or the dead body or parts thereof."); Response to Comment 2 in Final Rule, 73 Fed. Reg. 64264-01 ("ESA section 9(a)(1) prohibitions extended through this rule apply to live coral and dead coral skeleton").

²² *Defenders of Wildlife v. Martin*, 454 F. Supp. 2d 1085, 1095 (E.D. Wash. 2006) ("The term 'harm' as used in the ESA includes any "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." 50 C.F.R.. § 17.3.

²³ ESA § 7(2) [16 U.S.C. 1536(2)].

²⁴ 50 C.F.R.. § 226.216(a).

²⁵ The Endangered Species Committee may exempt a federal agency from this consultation obligation pursuant to Section 7(h).

threatened corals or critical habitat.²⁶ If USACE concludes that there will be no effect, no consultation is required. If USACE concludes that the action may affect listed corals, and prepares a biological assessment which concludes “that the action is not likely to adversely affect listed species or critical habitat” and NMFS agrees in writing, then no formal consultation process is needed.²⁷ If USACE’s biological assessment determines that an action is likely to adversely affect threatened corals or critical coral habitat, USACE is required to send NMFS a formal written request for consultation.²⁸

During formal consultation NMFS develops a biological opinion (BO) that “should address both the jeopardy and critical habitat prongs of Section 7 by considering the current status of the species, the environmental baseline [and] the effects of the proposed action.”²⁹ If NMFS’ BO finds “jeopardy” to the species, or “destruction or adverse modification” to critical habitat, NMFS may suggest “reasonable and prudent alternatives” (RPAs) to the proposed activity that NMFS believes would avoid

²⁶ 50 C.F.R.. §402.13(a).

²⁷ 50 C.F.R.. §402.13(b).

²⁸ 50 C.F.R.. 402.14; *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059, 1063 (9th Cir. 2004)

²⁹ *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059, 1063 (9th Cir. 2004) [citing 50 C.F.R.. § 402.14(g)(2)-(3)].

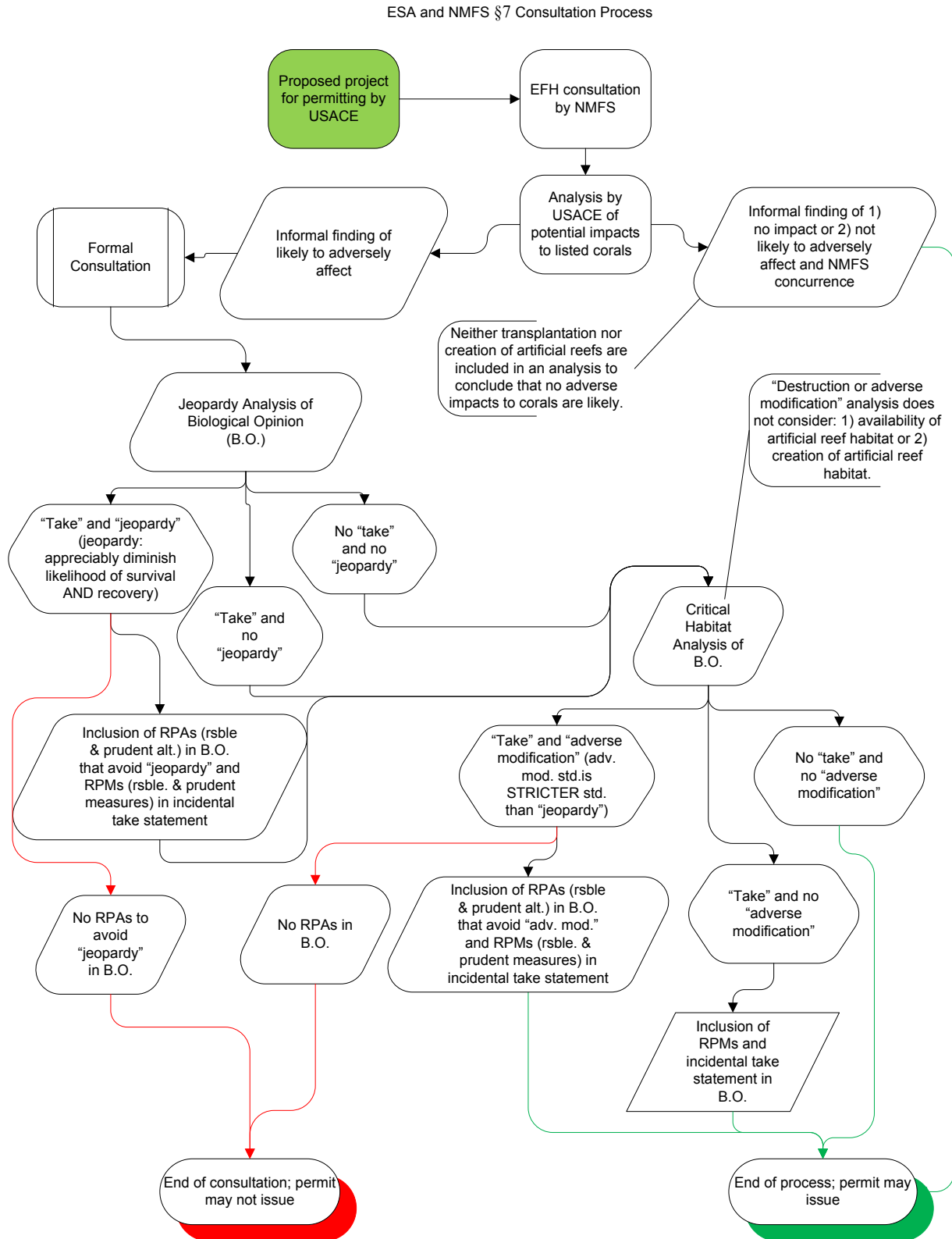


Figure 2. ESA and NMFS §7 consultation process.

“jeopardy” or “destruction or adverse modification.”³⁰ The federal action agency may adopt the RPAs suggested by NMFS, refuse to permit the activity, request an exemption from the Endangered Species Committee, consult with NMFS again with a modified proposal, or proceed with the action if the agency is satisfied that the final action is not likely to cause “jeopardy” or “adverse modification.”³¹ If the BO finds that “take” may occur, NMFS may include in the BO an incidental take statement that includes reasonable and prudent measures and other terms and conditions.³² Take of threatened corals that are “not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of an incidental take statement” (USFWS 2004). The incidental take statement should also “contain an adequate trigger for re-consultation, and [the] trigger must be expressed in population terms unless it is impractical to do so.”³³

The 2008 designation of critical habitat for threatened staghorn and elkhorn corals resulted in some changes to NMFS’ protections for implicated habitat. A NMFS BO analysis for areas included as critical habitat for corals must 1) use a “recovery” standard for protection of critical habitat in addition to the jeopardy standard for protection of non-critical habitat; 2) not consider artificial reef creation as a mitigating factor in the analysis of “adverse modification” to critical habitat; and 3) must not consider as mitigation the transplantation of protected corals from critical habitat to an area of non-critical habitat when analyzing whether the federal action would result in “destruction or adverse modification.”³⁴

Recovery Standard for Allowable Critical Habitat Impacts

The Final Endangered Species Act Section 4(b)(2) Report determined that the adverse impacts to critical coral habitat include “sedimentation that covers the substrate; nutrification that leads to algal blooms and covering of the substrate; and physical impacts that destroy or remove the substrate” (NMFS 2008). Despite NMFS’ use of separate analyses for determining jeopardy and adverse modification, NMFS believes it “would recommend the same types of project modifications to avoid or minimize adverse modification of the critical habitat” as it would to avoid or minimize the

³⁰ Endangered Species Act of 1973, § 7(b)(3)(A); 50 C.F.R.. 402.14(h)(3).

³¹ http://www.fws.gov/Endangered/consultations/sec7_faq.html#13

³² 50 C.F.R.. 402.14(h)(3)(ii) and (iv).

³³ *Miccosukee Tribe of Indians v. U.S.*, 566 F.3d 1257, 1275 (11th Cir. 2009).

³⁴ Conversations with SE NOAA Regions NMFS indicated that they currently *do not* consider transplantation of corals to artificial reefs to have any conservation benefit and thus do not recommend it under either the MSA or ESA.

possibility of jeopardizing the continued existence of threatened corals (NMFS 2008).³⁵ This fails to appreciate that the analysis for “destruction or adverse modification” of critical habitat should apply a stricter standard of protection for designated critical habitat than is applied to non-designated habitat under a jeopardy analysis. The following paragraphs explain the reasons why there is a difference between the jeopardy analysis applied to species and the more protective “destruction or adverse modification” analysis applied to critical habitat.

ESA regulations indicate that “jeopardize the continued existence of” means “to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of *both* the survival *and* recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”³⁶ Note that under this definition jeopardy does not occur unless NMFS concludes that the action would appreciably reduce the likelihood of *both* survival and recovery; if only the likelihood of recovery is appreciably diminished but survival is not, then the action does not “jeopardize the continued existence of” the threatened corals. Thus, this analysis for “jeopardy” may use the word “recovery,” but any finding of impairment of recovery is meaningless unless the likelihood of continued survival of the species is also impaired.

This same definition and reasoning were formerly applied to the analysis of “destruction or adverse modification” of critical habitat since this was defined as “a direct or indirect alteration that appreciably diminishes the value of critical habitat for *both* the survival *and* recovery of a listed species.”³⁷ As with the jeopardy analysis, survival and recovery both had to be appreciably diminished before concluding that “destruction or adverse modification” had occurred. However, a series of federal court of appeals cases in the 5th, 9th, and 10th Circuit Courts of Appeal have rejected the definition of “destruction or adverse modification” of critical habitat included in regulations because it contradicts the statutory language of the ESA.³⁸ These cases noted

³⁵ The avoidance and minimization strategies cited include (1) project relocation; (2) conditions monitoring; (3) GPS and DPV protocol; (4) diver assisted anchoring and mooring of buoys; (5) pipe collars and cable anchoring; (6) sand bypassing; (7) shoreline protection measures; (8) upland or artificial sources of sand; (9) Horizontal Directional Drilling or tunneling; and (10) sediment and turbidity control measures (NMFS 2008).

³⁶ 50 C.F.R.. 402.02 (emphasis added).

³⁷ 50 C.F.R.. 402.02 (emphasis added).

³⁸ *Sierra Club v. U.S. Fish and Wildlife Service*, 245 F.3d 434, 441-43 (5th Cir. 2001); *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059, 1069-70 (9th Cir. 2004) (finding that allowing the definition in regulation to stand would mean that FWS would be obligated to “be indifferent to, if not to ignore, the recovery goal of critical habitat”); *N.M. Cattle Growers Ass’n v. U.S. Fish and Wildlife Serv.*, 248 F.3d 1277, 1283 n.2 (10th Cir. 2001) (citing to the 5th Circuit’s opinion in *Sierra Club v. U.S. Fish*

that the ESA's statutory language is more protective than the regulatory definition of "destruction or adverse modification" because the ESA was designed not just for a species' survival, but also its recovery.³⁹ The invalidation of the regulation followed from the idea that "it is logical and inevitable that a species requires more critical habitat for recovery than is necessary for the species' survival."⁴⁰ NMFS currently has a "working definition" of adverse modification stating that it is "direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of the species."⁴¹

Thus, prior to designation of critical habitat, consultation required NMFS to apply a "jeopardy" standard and avoiding "take" (which includes modification of even non-listed habitat if such modification "actually kills or injures wildlife." "Jeopardy" was only found if the likelihood of the *survival* of the species was appreciably diminished.⁴² Since the designation of critical habitat for *Acropora* sp. corals, NMFS' consultation must also include an analysis of "destruction or adverse modification" of critical habitat that will be found if critical habitat impacts appreciably reduce the recovery of the corals, even if their likelihood of survival is not diminished.

Artificial Reefs

Despite the changes to analysis under the ESA due to designation of critical habitat, habitat impacts are, as explained previously, also considered under consultation through the MSA EFH analysis. This section on artificial reefs, and the following one on transplantation, explores the differences in analysis of impacts between EFH and the ESA.

Artificial reef construction is a commonly-used practice in conservation recommendations under the MSA to mitigate the adverse impacts caused by coastal construction projects (USFWS 2004a). However, artificial reef creation is not avoidance

and Wildlife Serv., 245 F.3d 434). *See also* Center for Biological Diversity v. U.S. Fish and Wildlife Service, 202 F.Supp. 2d 594, 631-32 (W.D. Tex. May 3, 2002) (distinguishing between the greater conservation value of the "destruction and adverse modification" analysis for critical habitat versus the lower conservation value of "jeopardy" analysis alone); American Motorcycle Ass'n Dist. 37 v. Norton, not report in F. Supp. 2d, 2004 WL 1753366 (N.D. Cal. Aug. 3, 2008) (citing favorably to the *Sierra Club* decision invalidating "destruction or adverse modification" definition in regulation).

³⁹ Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service, 378 F.3d 1059, 1070 (9th Cir. 2004).

⁴⁰ Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service, 378 F.3d 1059, 1069 (9th Cir. 2004).

⁴¹ Personal communication with Audra Livergood, Marine Resource Manager, NOAA, Southeast Region National Marine Fisheries Service Protected Resources Division.

⁴² Any mention of "recovery" in the "jeopardy" analysis is meaningless since any action that would appreciably reduce recovery but not appreciably reduce survival is still acceptable under this standard.

of impact. In other words, under MSA EFH analysis and prior to ESA listing, NMFS could complete consultation for an activity that involves destruction of natural coral habitat based on the determination that adverse affects to coral habitat will be offset through the “compensatory mitigation” method of artificial reef construction recommended by NMFS in the conservation recommendations.

NOAA’s Southeast Region NMFS Protected Resources Division (PRD) seeks to review proposed projects for USACE authorization concurrent with the MSA EFH consultation of the Habitat Conservation Division (HCD) (NMFS 2004). For example, when a proposed project may affect listed species or critical habitat under NMFS’ purview and the same proposed project may adversely affect EFH, the USACE will request consultation with both NMFS’ PRD and HCD. NMFS PRD prefers to wait until it has received EFH Conservation Recommendations from NMFS HCD. However, if NMFS PRD has all of the information needed to initiate ESA section 7 consultation, then NMFS PRD must initiate consultation even if the EFH consultation with the USACE is not yet complete. During the ESA review of impacts and determination of “destruction or adverse modification” of critical habitat, creation of artificial reef should not be considered as an offset in this analysis nor should the availability of non-critical habitat (such as existing artificial reefs) be taken into account.⁴³ Since the final rule designating critical habitat did not include artificial reefs under the definition of critical habitat, artificial reefs are external habitat.⁴⁴ Even though artificial reef construction should not be considered as a mitigating factor for critical habitat impacts under the ESA, artificial reefs may still play a mitigation role in conservation recommendations under the MSA.⁴⁵

⁴³ These conclusions arise from the fact that artificial reefs are specifically excluded from the definition of designated critical habitat for coral. In the response to comment 44 of the final rule designating critical habitat, NMFS stated that the essential feature within the critical habitat for the threatened coral does not include artificial reefs. 73 Fed. Reg. 72218 (<http://sero.nmfs.noaa.gov/pr/pdf/AcroporaFinalCHRule.pdf>).

⁴⁴ 73 Fed. Reg. 72218 (<http://sero.nmfs.noaa.gov/pr/pdf/AcroporaFinalCHRule.pdf>).

Although courts will afford great deference to the judgment of NMFS in its biological opinions, courts will find a biological opinion arbitrary and capricious if NMFS “relied on factors which Congress has not intended it to consider” such as non-critical habitat. *Miccosukee Tribe of Indians of Florida*, 566 F.3d at 1264. The Ninth Circuit clearly articulated, in *Gifford Pinchot Task Force v. US Fish and Wildlife Service*, that Congress did not intend NMFS to consider non-critical habitat when conducting an adverse modification analysis; the Ninth Circuit declared that it does not matter “if there is worthwhile and possibly suitable habitat outside of the designated ‘critical habitat;’ what mattered to Congress, and what must matter to the agency, is to protect against loss or degradation of the designated ‘critical habitat’ itself.” *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059, 1076 (9th Cir. 2004).

⁴⁵ See, e.g. 73 Fed. Reg. 72218 (<http://sero.nmfs.noaa.gov/pr/pdf/AcroporaFinalCHRule.pdf>) (noting that identification of artificial reefs as man-made structures not qualifying as critical habitat “in

Transplantation

Transplantation is a conservation method explicitly recognized in the ESA⁴⁶ and frequently recommended as a conservation recommendation to minimize impacts during the MSA EFH consultation. In “Atlantic *Acropora* Status Review Document,” NMFS reported an example of a successful transplantation of 300 elkhorn coral colonies in the Dominican Republic in 2002, which occurred when a port development project would have otherwise destroyed the 300 elkhorn colonies (Boulon *et al.* 2005). This document also references a 2002 Caribbean *Acropora* spp. workshop, in which participants concluded that the potential benefits of transplantation of staghorn and elkhorn corals “must be weighed against the probability of natural recovery, other management interventions, and likelihood of long-term success.”

If MSA EFH consultation precedes ESA analysis and transplantation as an EFH conservation recommendation is incorporated into the permit, ESA reviews may consider the transplantation⁴⁷ in the ESA analysis of jeopardy as long as the transplantation is to critical habitat and not artificial reefs.⁴⁸ This conclusion results from U.S. Supreme Court precedent in *Tennessee Valley Authority v. Hill* in which the

no way states whether artificial reefs should or should not be prescribed as mitigation for a particular activity under the CWA or MSA.”).

⁴⁶ ESA § 3(3) [16 U.S.C. § 1532(3)] (identifying certain conservation methods and procedures for assisting in species recovery, including “research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation”).

⁴⁷ Transplantation inevitably causes take under the ESA. Take occurs because a certain percentage of coral does not survive after reattachment to a different surface. For example, one of USACE’s permit conditions for the Broward Beach Segment III project (Project # 1999-5545) states that “[a]t a minimum, the relocated corals shall maintain an 80% survival rate after 6 months from the initial relocation date. Thereafter, the relocated corals shall maintain that 80% survival throughout the life of the monitoring program.” Phase 1 Report: Recommend Modifications to Agency Regulatory Compliance and Enforcement Protocols. Education and Outreach Training to Increase Enforcement Review and Actions, page 74 (August 2009). Take also occurs because of the common practice of only transplanting coral above a certain size, while leaving young coral to die. For example, one of USACE’s permit conditions for the Broward County Tire Reef project (Project # 2007-822) states that “[a]ttached scleractinian coral colonies of 4-inches in diameter or greater shall be relocated along the adjacent reef face within 30 days of removal from original substrate.” *Id.* at page 51.

In addition, in SE Florida success rates for transplantation projects of specific species and size classes have had success rates of 99% for corals over 10 centimeters diameter. Statement of Jocelyn Karaszia, Fishery Biologist, Habitat Conservation Division, NOAA NMFS. Nonetheless, under the ESA, even a loss of 1% of corals over 10 centimeters and those under 10 centimeters in diameter constitutes “take” that must be allowed either through a section 10 Incidental Take Permit or an incidental take statement in a section 7 biological opinion.

⁴⁸ This is not to imply that NMFS currently is recommending transplantation to artificial reefs as a conservation recommendation under MSA EFH consultation.

Supreme Court did not allow the completion of a dam that would destroy critical habitat of the endangered snail darter, even though there were reports of successful transplantation of the snail darter to unprotected areas that were not critical habitat.⁴⁹

Thus, transplantation, like creation of artificial reefs, may be a valid and useful conservation recommendation in MSA EFH analysis.⁵⁰ In addition, transplantation of *Acropora sp.* corals to critical habitat may constitute a “reasonable and prudent measure” to minimize the impact of take, thus impacting the “jeopardy” analysis under the ESA. However, pursuant to case law interpreting the ESA, transplantation should only be to designated critical habitat and not involve artificial reefs.

III.C Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) gives NMFS an advisory role to review and comment on proposed federally authorized activities that could affect living marine resources. Under amendments enacted in 1946, FWCA directs all federal agencies to consult with the FWS (NMFS was added under the Reorganization Plan of 1970) for the purpose of “preventing loss of and damage to wildlife resources.” In general, the FWCA gives NMFS less ability to impact the action of other federal agencies, such as USACE, than the MSA and its EFH provisions. Nonetheless, NMFS typically provides comments and recommendations under FWCA when the activity will affect wetlands that may not meet the EFH definition or are not physically accessible by managed species. Under the FWCA, USACE (or another lead federal agency) is required to “consider” NMFS comments. However, contrary to MSA, they are not required to adopt NMFS EFH conservation recommendations or provide NMFS with the substantive response (based on scientific rationale) in the case that they do not adopt NMFS recommendations.

The required response to NMFS’ conservation recommendations is what distinguishes and makes the MSA a stronger tool than the FWCA’s weaker provisions that a federal action agency “consider” NMFS comments. Since FWCA offers weaker authority for NMFS and is less frequently applicable to corals in the absence of MSA EFH authority, this project did not further analyze the FWCA here.

III.D United States Army Corps of Engineers (USACE)

The USACE occupies a central role in protection of coral resources because of the wide-ranging authority they exercise over resources under various federal statutes.

⁴⁹ Tennessee Valley Authority v. Hill, 437 U.S. 153, 171-72 and 192-193 (1978).

⁵⁰ ESA § 10 [16 U.S.C. 1539].

Phase 1 of this project resulted in the conclusion that USACE lacked the authority to enforce special conditions related to turbidity or water quality degradation affecting corals. Phase 2 interviews also raised questions about the types of activities covered by specific USACE regulatory permitting and the geographic extent of USACE authority under various permitting programs. Thus the following sections evaluate in detail USACE regulatory programs. First USACE regulatory authority under section 404 of the Clean Water Act is analyzed by examining the substantive and geographic reach of USACE's authority. Next, a similar analysis is conducted for USACE authority under section 10 of the Rivers and Harbors Act and under section 103 of the Marine Protection, Research and Sanctuaries Act. This is followed by a discussion of the use of special permit conditions.

USACE Jurisdiction Under Section 404 of the Clean Water Act

The substantive jurisdiction of the USACE under §404 of the CWA covers the deposit of dredged or fill material in waters of the U. S.

USACE regulations define "fill material" as "material placed in waters of the United States which has the effect of: (i) Replacing any portion of a water of the United States with dry land; or (ii) Changing the bottom elevation of any portion of a water of the United States."⁵¹ Examples of "fill material" include "rock, sand, soil, clay,...and materials used to create any structure or infrastructure in waters of the United States."

The "discharge of fill material" is defined as "the addition of fill material into waters of the United States."⁵² USACE regulations go on to state that this includes:

"Placement of fill that is necessary for the construction of any structure or infrastructure in a water of the United States; the building of any structure, infrastructure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, or other uses; causeways or road fills; dams and dikes; artificial islands; property protection and/or reclamation devices such as riprap, groins, seawalls, breakwaters, and revetments; beach nourishment; levees; fill for structures such as sewage treatment facilities, intake and outfall pipes associated with power plants and subaqueous utility lines; . . . and artificial reefs."⁵³

⁵¹ 33 C.F.R. 323.2(e)(1).

⁵² 33 C.F.R. 323.2(f).

⁵³ 33 C.F.R. 323.2(f) (emphasis added).

“Dredged material” is defined as “material that is excavated or dredged from waters of the United States,”⁵⁴ and “discharge of dredged material” is defined in USACE regulations as “any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the waters of the United States.”⁵⁵

After discussing *what* dredged or fill material may fall under USACE’s jurisdiction, it is important to also understand the geographic extent of USACE authority under the CWA. The CWA’s regulation of deposit of dredge and fill material applies in navigable waters. “Navigable waters” is defined as “the waters of the United States, including the territorial seas.” The “territorial seas” in the southeast Florida region extends from the high tide line out to a distance of 3 nautical miles (nm) from the low water line.⁵⁶

USACE Jurisdiction Under Section 10 of the Rivers and Harbors Act

The USACE has interpreted the substantive jurisdiction granted to it under §10 of the RHA to cover “structures and/or work in or affecting navigable waters of the United States.”⁵⁷

USACE regulations define “structure” to “include without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other obstacle or obstruction.”⁵⁸ “Work” is defined as “including without limitation, any dredging or disposal of dredged material, excavation, filling, or other modification of a navigable water of the United States.”⁵⁹

Under §10 of the RHA the USACE issues permits for “structures and/or work in or affecting navigable waters of the United States.” The definition of “navigable waters of the United States” under §10 of the RHA includes “all ocean and coastal waters within a zone three geographic (nautical) miles seaward from the baseline.”⁶⁰

⁵⁴ 33 C.F.R. 323.2(c).

⁵⁵ 33 C.F.R. 323.2(d)(1).

⁵⁶ 33 U.S.C. 1344(a); 33 U.S.C. 1362(7); 33 U.S.C. 1362(8); 33 C.F.R. 328.4; 33 C.F.R. 329.12(a).

⁵⁷ 33 C.F.R. 322.3(a).

⁵⁸ 33 C.F.R. 322.2(b) (emphasis added).

⁵⁹ 33 C.F.R. 322.2(c).

⁶⁰ 33 U.S.C. §403, 33 C.F.R. §§329.12, 322.3(a).

For certain activities that fall under the authority granted to the USACE in the Outer Continental Shelf Lands Act (OCSLA) the USACE's jurisdiction, under §10 of the RHA is extended further offshore to the "seaward limit of the outer continental shelf". According to USACE regulations, §4(f) of the OCSLA extended the geographic jurisdiction of the USACE to "prevent obstruction to navigation" under §10 of the RHA beyond the territorial sea to the "seaward limit of the outer continental shelf." Under §10 of the RHA pursuant to §4(f) of the OCSLA, a USACE permit is required for "the construction of artificial islands, installations, and other devices on the seabed."⁶¹

According to OCSLA the "Outer Continental Shelf" includes "all submerged lands lying seaward and outside of the area of lands beneath navigable waters... and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control."⁶² In a Presidential Proclamation in 1983, President Ronald Reagan claimed jurisdiction over the EEZ which extends from the baseline out 200 nautical miles.⁶³ The sovereign rights and jurisdiction claimed by the president in the EEZ include jurisdiction over the seabed and subsoil. Thus the outer continental shelf extends out up to 200 nm from the baseline. There are some circumstances where the outer continental shelf may extend out beyond 200 nm but that is not possible within the southeast Florida region because of the close proximity to the maritime boundaries of the Bahamas.

The OCSLA seems to greatly extend the seaward reach of the USACE's ability to protect coral reefs, but the USACE's substantive jurisdiction under this extension of their geographic jurisdiction may be limited. The language of the regulations and the OCSLA state that a permit may be required for "the construction of artificial islands, installations, and other devices on the seabed."⁶⁴ It is not clear whether this is broader, narrower, or coterminous with "structures and/or work" in the RHA. This uncertainty has led to inconsistent application of OCSLA's potential increase in geographic jurisdiction under §10 of the RHA. For example, Appendix 2 provides an example of a case in which USACE exercised its increased geographic jurisdiction under OCSLA in response to NMFS concerns. In this example, it is noted that USACE declined to exercise jurisdiction over installation of a telecommunications cable under OCSLA, but had recently exercised this same authority for a pipeline in the same area. It is not clear why USACE chose to exercise jurisdiction over one of these "devices on the seabed" but not the other; both potentially affect coral reef resources. This discrepancy highlights

⁶¹ 43 U.S.C. §1333(e); 33 C.F.R. §§320.2(b); 322.3(b).

⁶² 43 U.S.C.A 1331(a).

⁶³ *Presidential Proclamation No. 5030*. March 10, 1983.

⁶⁴ 43 U.S.C. §1333(e); 33 C.F.R. §§320.2(b); 322.3(b).

the difficulty of relying upon USACE and current associated laws and regulations for protection of coral reef resources.

The potential geographic extension of §10 RHA applicability is very important in the context of corals because the regulatory reach of USACE's jurisdiction under §404 of the CWA and the State of Florida's jurisdiction both only reach out to three nautical miles. Absent exercising of increased geographic reach of §10 RHA under OCSLA, many projects further than three miles out cannot be strictly regulated to protect coral.

Section 103 of the Marine Protection, Research, and Sanctuaries Act

The Marine Protection, Research, and Sanctuaries Act (MPRSA) prohibits the transportation of "any material for the purpose of dumping it into ocean waters," unless authorized by a permit issued by the EPA pursuant to §102 or issued by the Secretary of the Army (USACE) pursuant to 103 of the MPRSA. According to the EPA's guidelines on the implementation of §404(b)(1) of the CWA the "[t]he discharge of dredged material in the territorial sea is governed by the Marine Protection, Research, and Sanctuaries Act" (MPRSA).⁶⁵ The EPA regulations state that the guidelines set forth in the regulations apply to the "discharge of fill material into the territorial sea."⁶⁶ The Jacksonville District of the USACE has interpreted this to mean that the discharge of *dredged material* into the territorial sea is regulated under §103 of the MPRSA and the discharge of *fill material* into the territorial sea is regulated under §404 of the CWA.⁶⁷

Because the MPRSA is limited to permitting transport of material "for the purpose of dumping it into ocean waters," it is not very often used. Beach nourishment projects typically dump sand on the beach rather than directly in the water, thus coming under the USACE's Section 404 permitting rather than under the MPRSA. In interviews, USACE officials indicated that relatively few permits are issued each year under the authority of the MPRSA. In light of these limitations, this project has not focused on the MPRSA.

Special Permit Conditions

USACE regulations state that "a permit will be granted unless the district engineer determines that it would be contrary to the public interest."⁶⁸ All USACE permits must

⁶⁵ 40 C.F.R. 230.2(b).

⁶⁶ *Id.*

⁶⁷ See, Jacksonville Regulatory Sourcebook, available at: <http://www.saj.usace.army.mil/Divisions/Regulatory/sourcebook.htm>.

⁶⁸ 33 C.F.R. 320.4(a). Prior to this, USACE must ensure that there is no practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, 40 C.F.R.

satisfy this “public interest requirement” and undergo “public interest review” which involves “balancing the favorable impacts [of a proposed activity] against the detrimental impacts.”⁶⁹ Public interest review involves consideration of the “cumulative impacts” of the proposed activity including all reasonably foreseeable benefits and detriments. All relevant factors must be considered; some of the factors relevant to coral reef protection that must be considered include:

“conservation, economics, aesthetics, general environmental concerns,... fish and wildlife values,... navigation, shore erosion and accretion, recreation, water quality, food and fiber production... and, in general, the needs and welfare of the people.”⁷⁰

The outcome of this balancing test “should reflect national concern for both protection and utilization of important natural resources.”⁷¹ Oftentimes permit special conditions result from findings that without the special conditions, the proposed activity would fail the public interest test. Thus the USACE may include special conditions related to coral reef protection, or water quality, for permits issued under §10 of the RHA or §404 of the CWA. These special conditions may be included to ensure that the permitted activity is not contrary to the public interest or to insure compliance with other legal requirements.

USACE regulations regarding processing of USACE permits in general (Title 33, part 325, Code of Federal Regulations) state that “[d]istrict engineers will add special conditions to [USACE] permits when such conditions are necessary to satisfy legal requirements or to otherwise satisfy the public interest requirement.”⁷² These special conditions must “be directly related to the impacts of the proposal, appropriate to the scope and degree of those impacts, and reasonably enforceable.”⁷³ USACE regulations emphasize the importance of including special conditions that are enforceable. The district engineer “will deny the permit” where “the district engineer determines that special conditions are necessary to insure the proposal will not be contrary to the public

230.5(c) and 40 C.F.R. 230.10(a), and that appropriate and proper steps have been taken to minimize potential adverse impacts. 40 C.F.R. 230.5(j) and 40 C.F.R. 230.10(d).

⁶⁹ 33 C.F.R. 320.1(a)(1)

⁷⁰ 33 C.F.R. 320.4(a)(1).

⁷¹ 33 C.F.R. 320.4(a)(1).

⁷² 33 C.F.R. 325.4(a).

⁷³ 33 C.F.R. 325.4(a). In addition, in order for the special conditions included in a permit to be enforceable, the basis for the special conditions must appear in USACE’s “statement of findings” that gives USACE’s evaluation of permit proposal. Cf. 33 C.F.R. 325.2(6).

interest, *but those conditions would not be reasonably implementable or enforceable.*"⁷⁴ If other local, state, or federal permit conditions or limitations will achieve the aims necessary to meet the USACE public interest analysis, USACE may include a special condition which states that "material changes in, or a failure to implement and enforce such program or agreement, will be grounds for modifying, suspending, or revoking the permit."⁷⁵

III.E Federal Consistency Review

The federal Coastal Zone Management Act (CZMA)⁷⁶ includes a section requiring that federal agency activity (i.e., federal funding or permitting) that "affects any land or water use or natural resource of the coastal zone" must, to the maximum extent practicable, be consistent with policies of the state that are approved as part of the state's coastal management program.⁷⁷ This right of Florida to review federal actions or federally-funded projects is known as "federal consistency."

Florida's approved coastal management program includes parts of twenty-four different state statutes, including statutes related to beach management,⁷⁸ comprehensive planning,⁷⁹ state lands,⁸⁰ transportation,⁸¹ and environmental protection,⁸² among others.

Federal consistency review is implemented in Florida through the coordination of nine state agencies and Florida's five water management districts. The Florida State Clearinghouse within FDEP administers federal consistency review in Florida. Projects requiring federal consistency review may be submitted to the Clearinghouse, which will then forward the information to appropriate agencies and collect the responses from involved agencies. If an agency finds an inconsistency, it must identify with which

⁷⁴ 33 C.F.R. 325.4(c)(emphasis added). The requirement that special conditions be "reasonably implementable or enforceable" should not be confused with any obligation of USACE to actually enforce such conditions. See discussion in following section #5 on Monitoring and Enforcement.

⁷⁵ 33 C.F.R. 325.4(a)(2).

⁷⁶ 16 U.S.C. §1451, *et seq.*

⁷⁷ Coastal Zone Management Act §307 (16 U.S.C. §1456).

⁷⁸ Fla. Stat. Chapters 161 (Beach and Shore Preservation) and 553 (Building and Construction Standards).

⁷⁹ Fla. Stat. Chapters 163, Part II and 186 (State and Regional Planning).

⁸⁰ Fla. Stat. Chapters 253 (State Lands) and 258 (State Parks and Preserves).

⁸¹ Fla. Stat. Chapters 334 (Transportation Administration) and 339 (Transportation and Finance).

⁸² Fla. Stat. Chapters 373 (Water Resources), 376 (Pollutant Discharge Prevention and Removal), 403 (Environmental Control), and 582 (Soil and Water Conservation).

statute the proposal conflicts and give alternatives, if possible, that would allow for a finding of consistency with Florida's Coastal Management Program.

Section 380.23(6), F.S., which gives review authority to each agency that has authority under one of the twenty-four statutes that comprises Florida's coastal zone management program.⁸³ FDEP, the FWC, and other Florida agencies thus maintain significant authority to impact federally-permitted and federally-funded projects in Florida's coastal zone and even some projects that extend beyond Florida's coastal zone.

Most projects potentially affecting corals within Florida's boundaries will not have to go through the Florida State Clearinghouse for their federal consistency. Rather, most projects, if they require a state-issued ERP, will undergo a federal consistency review within the permitting agency; this review will include the authority for other appropriate state agencies to comment on the proposal. Subsequent issuance of an ERP serves as notice of the State of Florida's finding of consistency for federally-licensed or federally-permitted activities.⁸⁴

"Coastal zone" in the CZMA is defined as:

"the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal states, and includes islands, transitional and intertidal areas, salt marshes, wetlands, and beaches. The zone extends . . . seaward to the outer limit of State title and ownership under the Submerged Lands Act (43 U.S.C. 1301 et seq.), the Act of March 2, 1917, (48 U.S.C. 749) The zone extends inland from the shorelines only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters, and to control those geographical areas which are likely to be affected by or vulnerable to sea level rise. Excluded from the coastal zone are lands the use of which is by law subject solely to the discretion of or which is held in trust by the Federal Government, its officers or agents."⁸⁵

The CZMA establishes three levels of activity under federal consistency. The first level of activity is federal development projects within the coastal zone, which are to be consistent with approved, enforceable policies of Florida's coastal management

⁸³ FWC's specific authority under Florida's approved Coastal Management Program includes Florida Statutes, Chapter 379, Fish and Wildlife Conservation (excepting section 379.2551 and 362).

⁸⁴ Fla. Stat. §380.23(1) (2009).

⁸⁵ Coastal Zone Management Act §304(1) (16 U.S.C. §1453(1)).

program to the maximum extent practicable.⁸⁶ Since these projects occur within the jurisdiction of Florida, they are subject to state permitting processes and consistency review will often take place through these processes (such as the ERP as noted above).

Second, the CZMA also has a consistency review requirement for any project requiring a “Federal license or permit to conduct an activity, in or outside of the coastal zone, affecting any land or water use or natural resource of the coastal zone.”⁸⁷ Finally, the CZMA requires consistency for “Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone.”⁸⁸

For these latter two types of review, the exact scope of what activities beyond Florida’s state jurisdiction require federal consistency review under the terms of the CZMA involves some uncertainty. The portion of the CZMA applicable to activities requiring federal permits was originally expanded by Congress in 1990 in response to a U.S. Supreme Court decision⁸⁹ that specifically excluded the federal government’s sale of oil and gas leases in the outer continental shelf.⁹⁰ This expansion occurred by noting that even activities occurring *outside* of the coastal zone would require federal consistency review if the activities affect “any land or water use or natural resource of the coastal zone.”⁹¹ Under this language, even reasonably tenuous avenues qualify under the CZMA’s broad language regarding activities that may affect “any land or water use or natural resource of the coastal zone.” For example, installing a power transmission or telecommunications cable on the sea floor might qualify since installation could impact corals, which serve as habitat for fish that may migrate in and out of Florida’s coastal zone.

It is likely that projects beyond the limit of southeast Florida’s three nautical mile coastal zone may increase along with the push for alternative energy. Research has begun on potential use of ocean currents for electrical generation off the southeast coast of Florida. Federal consistency review gives Florida the right to review these under federal consistency if the proposed project will affect “any land or water use or natural resource of the coastal zone.” Nonetheless, even if an action is subject to federal consistency review due to impacts in Florida’s coastal zone, it is not clear what Florida may do about this since a finding of inconsistency of a federal action by a Florida agency requires that the Florida agency identify with which state statute the proposed

⁸⁶ Coastal Zone Management Act §307(c)(2) (16 U.S.C. §1456(c)(2)).

⁸⁷ Coastal Zone Management Act §307(c)(3) (16 U.S.C. §1456(c)(3)) (emphasis added).

⁸⁸ Coastal Zone Management Act §307(c)(1)(A) (16 U.S.C. §1456(c)(1)(A)) (emphasis added).

⁸⁹ Secretary of the Interior v. California, 464 U.S. 312 (1984).

⁹⁰ Pub.L. 101-508, § 6208(b)(2)(A)-(C).

⁹¹ Pub.L. 101-508, § 6208(a) and 6208(b)(2)(A)-(C).

federal action conflicts. Since enforceable state statutes can, by definition, only apply within the confines of the state, it may be that a finding of “federal inconsistency” would effectively only be advisory.

Federal consistency review does not always work to protect Florida resources from potential impacts. Consistency review may not occur if an activity is permitted through a USACE nationwide permit. This occurred recently when Florida Atlantic University applied to place four Acoustic Doppler Current Profilers (ADCPs) in waters off the coast of Florida. Since USACE approved this activity via a nationwide permit, Florida did not conduct an activity-specific consistency review, and three of the four ADCPs were dropped in areas known to support deepwater corals, but the permit contained no special conditions to protect deepwater corals (Appendix 3).

III.F State Protections for Corals

Statutory Protection

Florida statutes offer some protections specifically for corals. For example, Florida Statute section 258.083 prohibits “destroy[ing], damage[ing], remov[ing], or defac[ing] any coral, rock, or other formation or any part thereof” within the John Pennekamp Coral Reef State Park. A similar prohibition applied to all state parks appears in Florida Statute section 258.008(3)(a). In addition, statutes allow for the State of Florida to “protect; conserve; ... and prevent trespass, damage, or depredation upon the lands and the products thereof” when such land is owned by the State.⁹²

In 2009, the Florida Legislature passed the Coral Reef Protection Act (Section 403.93345, F. S.) to protect coral reefs on sovereign submerged lands off the coasts of Martin, Palm Beach, Broward, Miami-Dade, and Monroe counties. The law authorizes FDEP to assess fines for damage to corals caused by boat groundings or anchoring, including increasing penalties for repeat offenses or damages occurring in a state park or aquatic preserve.⁹³ The law also gives criteria for consideration if an action pursuant to other statutes is initiated due to anchoring or a boat grounding that damages coral.⁹⁴ Finally, FDEP has begun adding special conditions to their permits to require anchoring plans for offshore projects and will pursue impacts outside of permitted areas under the Coral Reef Protection Act.

⁹² Fla. Stat. §253.40(1) (2009).

⁹³ Fla. Stat. §403.93345(8) (2010).

⁹⁴ Fla. Stat. §403.93345(6) (2010).

In addition to direct statutory protection, the FWC, which has constitutional authority over fish and wildlife in Florida,⁹⁵ has regulations prohibiting the harvest or destruction of “any sea fan of the species *Gorgonia flabellum* or of the species *Gorgonia ventalina*, or any hard or stony coral (Order Scleractinia) or any fire coral (Genus *Millepora*).”⁹⁶

FWC regulations specify limits on those corals that may be harvested.⁹⁷ One coral species: Pillar Coral (*Dendrogyra cylindrus*), has been listed as a State endangered species.⁹⁸ However, no regulatory actions have involved this species, its status is in review and it may be removed from the state listing (L. Gregg, pers. comm.).

FWC regulations also establish recreational and commercial harvest limits for reef-related species such as octocorals, gorgonians, zoanthids, and sponges, and regulate the commercial industry that harvests these species through a limited entry program.⁹⁹ Further, under federal consistency review, FWC possesses a commenting role for federal activities that may affect corals.

Even more importantly than the protections in state law that specifically mention corals are the general permitting regimes discussed throughout this report and how their implementation protects coral resources. Table 3 lists the most important provisions that address coral resource protection. In addition to referencing the most important permitting authorities – the Environmental Resources Permit authorized by Florida.

Statutes sections 373.413 and 373.414 and the sovereign submerged lands protections of Chapter 253 – the table also references various statutes and regulations dealing with the enforcement of these statutes.

⁹⁵ Fla. Const., Art. IV, §9.

⁹⁶ Fla. Admin. Code R. 68B-42.009(1).

⁹⁷ Fla. Admin. Code R. 68B-42.005 and 68B-42.006(2)(j) and (k).

⁹⁸ Fla. Admin Code R. 62A-27.003(1)(a).

⁹⁹ Fla. Admin. Code R. 68B-42

Table 3, pg. 1 of 2. Primary FL state regulations involving coral resources. Consultation includes formal and informal. Turb: turbidity (sediments in water column); Sedim: sedimentation (settling of sediments onto bottom). See list of acronyms on page 10. FDEP civil penalties include administrative and judicial. Blank cells: information not obtained. Table is for general guidance only, refer to the statute or rule and lead agency for legal interpretation and implementation.

Florida Statute (F.S.) or Administrative Rule (F.A.C.)	Lead C & E Agencies	Consultation	Desk Permit	Field C & E	Impact Types	<u>Penalty Structure</u>		
						Admin.	Judicial	Criminal
F.S. §373.129, .413, & .414 Environ. Res. Permitting	FDEP - SED, BBCS	FWC, NMFS, USACE, Counties	Yes	Yes	Turb., Sedim., Toxicity, Physical	FDEP - SED, BBCS	FDEP - LE, SED, BBCS	FDEP - LE
F.A.C. 62 - 302.500 & 530 Surface Water Quality Standards	FDEP - SED, BBCS	USEPA	Yes	Yes	Turb., Sedim., Toxicity	FDEP - SED, BBCS	FDEP - SED, BBCS, LE	FDEP - LE
F.A.C. 62 - 4.242 & .244 Permit Guidelines, Mixing Zones	FDEP - SED, BBCS	FWC, NMFS, USEPA	Yes	Yes	Turb., Sedim., Toxicity	FDEP - SED, BBCS	FDEP - SED, BBCS, LE	FDEP - LE
F.S. §253.04 Protection of Sovereign Submerged Lands (F.A.C. 18-14: fines)	FDEP - SED, BBCS	FWC, Counties, NMFS,	Yes	Yes	Turb., Sedim., Physical	FDEP - BBCS, DSL, SED	FDEP - BBCS, DSL, SED	FDEP - LE
F.S. §403.121, .161, & .201 Pollution Control Enforcement, Remedies, Fees; Turbidity Variance	FDEP - SED, BBCS	FWC, NMFS, USACE, Counties	N/A	Yes	Turb., Sedim., Physical	FDEP - SED, BBCS	FDEP - SED, BBCS, LE	FDEP - LE

F.S. §403.93345 Coral Reef Protection Act Groundings, Anchoring and Other Coral Damage	FDEP – CRCP, SED	CRCP, BBCS, FWC, Counties	N/A	Yes	Physical contact	FDEP - SED	FDEP - SED	
F.S. §161.054 & .055 Joint Coastal Permit (F.A.C. 62B-54: fines)	FDEP – BBCS	FWC USACE, NMFS	Yes	Yes	Turb., Sedim., Physical	FDEP - BBCS	FDEP - BBCS, LE	FDEP - LE
F.A.C. 68B - 42.009 Marine Life Rule No Harvest of any Hard Coral, Sea Fan (<i>Gorgonia flabellum</i> or <i>G. ventalina</i>), or Fire Coral (<i>Millepora</i>)	FWC	CRCP, Counties	N/A	Yes	Physical contact		FWC – LE	
F.A.C. 68B-8 Special Activity License: Coral Restorat./Mitig.	FWC	NMFS, PRD (acroporids)	Yes	Yes	Physical contact	FWC	FWC – LE	
F.S. §258.008(3)(a) Coral Protection in State Parks	FDEP – DRP, SED	CRCP	N/A	Yes	Physical contact			
F.A.C. 62A-27.003(1)(a) State Endangered Species Pillar Coral (<i>D. cylindrus</i>): Status may change	FWC	CRCP	N/A	Yes	Physical contact	N/A		

III.G Local Coral Regulations

Broward County

Broward County's Environmental Protection and Growth Management Department (EPGMD) issues and enforces licenses that can involve impacts to corals under Chapter 27 of the Broward County Pollution Control Code. Corals, along with seagrasses, mangroves and some other habitats, are treated as regulated aquatic or wetland resources under Section 27-333.(a)(1) Prohibited activities, which states: "No person shall cause, permit, suffer, allow, conduct or cause to be conducted impact, alteration, construction, demolition, dredging or filling in regulated aquatic or wetland resources, except in accordance with a currently valid environmental resource license issued by EPGMD and all general and specific license conditions contained therein.

Applicants for Environmental Resource Licenses are subject to a variety of general and specific conditions determined under EPGMD review that can involve consultation with FDEP for large projects that may affect corals. These licenses are most commonly associated with pipeline or cable construction, dredging, ship anchoring, or scientific research that occurs within 3 nautical miles of shore. A search of Chapter 27, Article 11 revealed the occurrence of the word coral only in Section 27-332. - Definitions: "Significant benthic community means an assemblage of organisms occupying the benthic substrate that is composed of economically important shellfish, hard or soft corals, seagrasses, or a diverse macroinvertebrate association." The phrase *significant benthic community* otherwise occurs in Article 11 in terms of specific licensing criteria (Section 27-336-337).

C & E for Broward environmental resource licenses is done entirely in-county. Licensees can be out of compliance in terms of two general categories:

- a) Doing harm to resources or by exceeding or not complying with license conditions (e.g., dredging deeper than authorized). In this case, a warning notice or notice of violation is issued;
- b) Violating paperwork or other administrative requirements (timing of as-built submissions, etc.). In this case, a citation warning or citation may be issued.

If a warning notice or citation warning does not rectify the issue, the county can issue a notice of violation (NOV). NOVs for aquatic or wetland resource impacts are prepared by the Aquatic and Wetland Resources Program and then forwarded to Enforcement Administration. If warranted, the case is taken to a Hearing Examiner who ultimately adjudicates administrative penalties, costs and corrective actions. Such penalties can include fines of up to \$15,000.00 per day per violation (based on the number of days the

violation actually occurred). Additionally, the EPGMD may refer a case to the County Sheriff's office as a criminal complaint (i.e., for the dumping of oil).

Miami-Dade County

This county's Coastal Construction Permitting Program has Class 1 permits similar to ERP based on memoranda with the FDEP. This program issues permits required for work in, over, or upon tidal waters and coastal wetlands throughout all of Miami-Dade County. This includes authorizations required for several coastal construction activities that can affect corals and is managed by the Miami-Dade Department of Environmental Resources Management (DERM) Coastal Resources Section.

Martin & Palm Beach Counties

Neither of these counties have rules that specifically apply to coral management.

IV. Enforceability Analysis

Due to questions and concerns that arose during Phase 1, Phase 2 conducted an enforceability analysis for certain laws and regulations. Those treated here include the conditions related to EFH consultation under the MSA, conditions related to the ESA, and a special section on USACE enforcement due to Phase 1 findings related to USACE.

IV.A Magnuson-Stevens Act (Essential Fish Habitat) Conditions

The MSA's authority for the NMFS to comment on USACE permits gives NMFS no binding authority over USACE or the recipients of permits from USACE. NMFS' authority allows it to give conservation recommendations to USACE, and USACE maintains the discretion to include permit special conditions that address the conservation recommendations of NMFS. Even in those cases in which USACE incorporates permit special conditions on the basis of NMFS conservation recommendations, NMFS has no authority to "enforce" such conditions. USACE has full authority to enforce such conditions assuming they were properly included in the permit as reflected in USACE's "statement of findings" that supported issuance of the permit. Appendix 2 is an example of where NMFS conservation recommendations resulted in additional special conditions to protect corals, but the special condition was never fully complied with by the permit applicant.

IV.B Endangered Species Act-Related Conditions

Under the ESA, NMFS is required to issue a BO for USACE permit applications that are likely to adversely affect *Acropora sp.* corals. If the BO concludes that the action would cause "jeopardy" to a species or "destruction or adverse modification" of designated

critical habitat, NMFS is required to issue “reasonable and prudent alternatives” (RPAs) that NMFS believes would avoid the “jeopardy” or “destruction or adverse modification” finding. While in theory only advisory, these recommendations are effectively binding since failure to comply would result in a prohibited take.¹⁰⁰

If NMFS concludes in the BO that the action will involve “take,” NMFS may issue an “incidental take statement” to USACE that includes reasonable and prudent measures (RPMs) and terms and conditions with which the permittee *must* comply (i.e., compliance with the RPMs and terms and conditions of the incidental take statement is non-discretionary).

Conversations with USACE representatives indicated that when NMFS issues a BO indicating either “jeopardy” along with an RPA to avoid such jeopardy or “take” and detailing RPMs that must be followed to minimize the impact of take, USACE typically incorporates the BO into the permit by reference rather than specifically drafting special conditions included directly in the USACE permit. From a technically legal perspective, this incorporation by reference raises no problems and is very common in many legal realms. Nonetheless, concern was expressed that such incorporation by reference may practically result in decreased C & E. Three reasons support this concern. First, the BO may not be as readily available to the permittee or C & E officials if it is not physically or electronically appended to the permit. Second, inclusion of the BO as a separate document may lead to decreased compliance since now, instead of only reviewing the permit, a permittee must also review the BO and determine what are the binding RPMs, and incorporate them into the permittees’ planning and activities. Third, concerns arose as to whether the RPMs and “terms and conditions” were always drafted carefully to ensure the clarity and enforceability that is the goal of this project on permit special conditions.

IV.C USACE

USACE regulations impose a discretionary duty on district engineers to “take reasonable measures to inspect permitted activities, as required, to ensure that these activities comply with specified terms and conditions.”¹⁰¹ This USACE regulation dedicates an entire subsection to establishing that the regulation “does not establish a non-discretionary duty to inspect permitted activities for safety, sound engineering practices, or interference with other permitted or unpermitted structures or uses in the area... [or] for any other purpose.”¹⁰² District engineers are directed to “supplement inspections by their enforcement personnel... [by] encourag[ing] their other personnel;

¹⁰⁰ Cf. *Bennett v. Spear*, 520 U.S. 154, 169-70 (1997).

¹⁰¹ 33 C.F.R. 326.4(a).

¹⁰² 33 C.F.R. 326.4(b).

members of the public; and interested state, local, and other Federal agency representatives to report suspected violations of Corps permits.”¹⁰³

The Phase I Report stated that there is a USACE policy that prohibits USACE personnel from entering the water above their chest, which interferes with their ability to monitor compliance of permitted activities where coral resources could be affected. Further inquiry into this policy in an interview with numerous USACE supervisory officials resulted in the conclusion that this is a policy that dates back as far as anyone could recall. No one had any knowledge of this being written, but supervisory-level officials agreed that the policy would necessarily be maintained because USACE does not have the resources to maintain divers certified to dive for USACE.¹⁰⁴

USACE may try to resolve permit violations by voluntary compliance or a permit modification pursuant to 33 C.F.R. 325.7(b).¹⁰⁵ When a permit violation is discovered USACE general enforcement regulations require, as a first step in the enforcement process, that USACE “attempt to resolve the violation.” Permit modification under 33 C.F.R. 325.7 is one of the ways that this can be achieved.¹⁰⁶ If the district engineer determines that a permit should be modified, USACE regulations first require that attempts be made to modify the permit by mutual agreement through informal consultation with the permittee. If mutual agreement is not possible, USACE has discretion to suspend the permit, propose modifications, or leave the permit as is.

Figure 3 provides a schematic overview of compliance flow protocols for the USACE in southeast Florida. USACE policy functionally considers *compliance* violations to involve a breach of specific details in a permit or license (e.g., a permittee fills more wetlands than the permit specified, or otherwise violates specific conditions). The widespread and consistent application of compliance protocols with the monitoring of project construction is essential to ensure the proper implementation of special conditions by permittees to protect corals.

¹⁰³ 33 C.F.R. 326.4(a).

¹⁰⁴ It was stated that USACE would have to comply with Department of Defense rules and policies for diving. These are apparently very onerous. One person indicated that they thought it could take up to five people on a boat for one person to get in the water under Department of Defense policy.

¹⁰⁵ 33 C.F.R. 326.4(d)(3).

¹⁰⁶ 33 C.F.R. 326.4(d)(3).

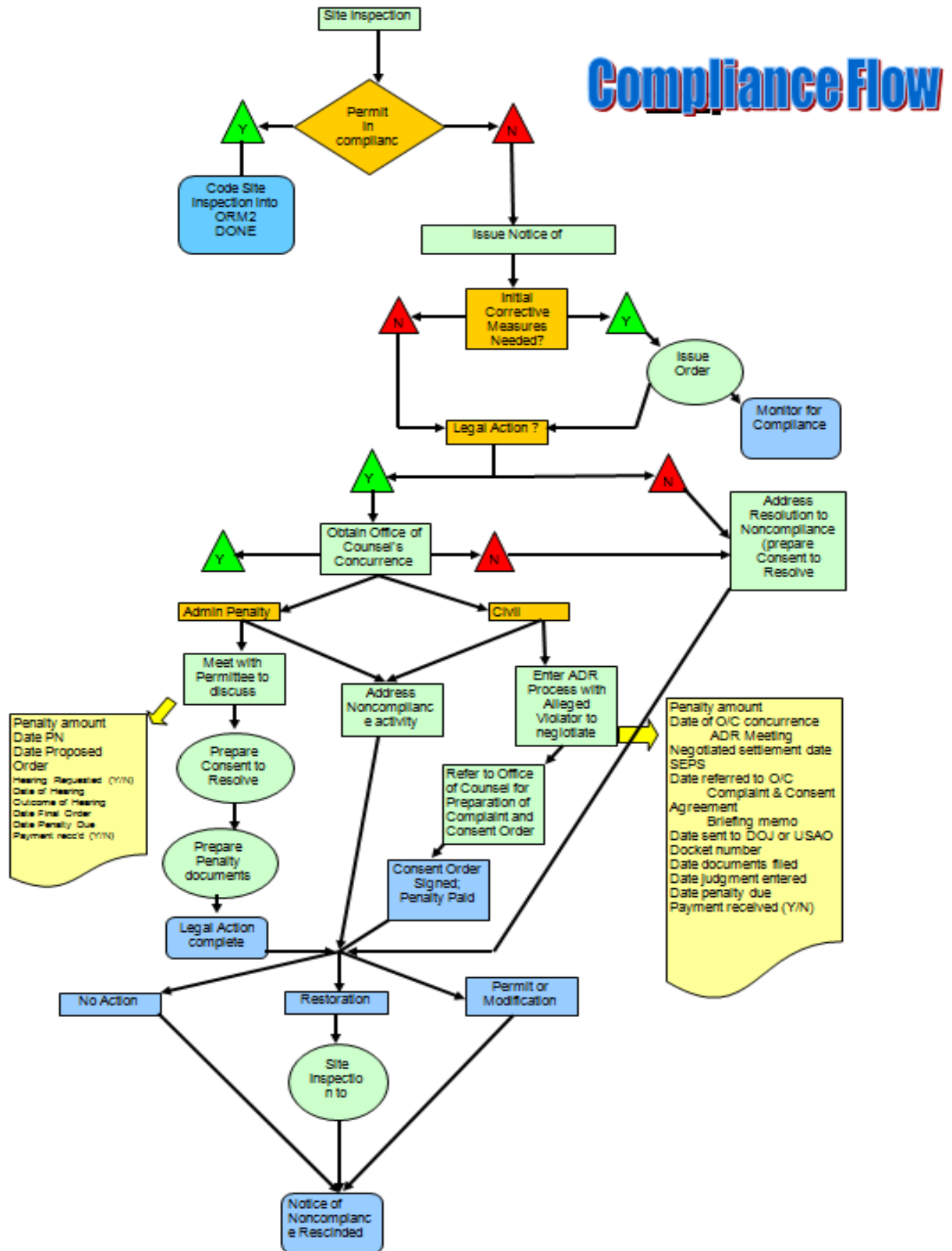


Figure 3. USACE compliance flowchart.

The schematic diagram in Figure 4 schematic representing enforcement flow protocols within the USACE. Enforcement violations involve a breach of rules or laws in the absence of a permit or license (e.g., a non-permittee fills a wetland absent any kind of permit). Subsequent to determination if the Possible Unauthorized Activity (PUA) is a compliance or enforcement violation, there are substantial similarities early in the flows. Note that enforcement procedures, however, can be referred to the EPA (Figure 4). Enforcement actions will often involve submission of complaints by third parties (e.g., citizens, other agencies) or field discoveries of PUAs by USACE personnel.

If a permit violation is not resolved by voluntary compliance or a permit modification, then “a written order requiring compliance should normally be issued” but is “not... a prerequisite to legal action”. If the permittee does not comply with the order, USACE may consider using the suspension or revocation procedures in 33 C.F.R. 325.7(c) and may recommend legal action in accordance with 33 C.F.R. 326.5.¹⁰⁷ While USACE is “authorized to refer cases directly to the U.S. Attorney” in cases USACE believes require civil or criminal penalties,¹⁰⁸ USACE will usually use its administrative penalties authority – when available – to punish permit violations rather than seek civil or criminal penalties since administrative penalties are far quicker and easier to levy, thus making them more effective as a deterrent.

Enforcement Under Section 404 of the CWA

The USACE has several options for taking enforcement action for violations of permits issued under Section 404 of the CWA. Section 404(s)(1) of the CWA states that:

“Whenever on the basis of any information available to him the Secretary [defined as ‘the Secretary of the Army, acting through the Chief of Engineers’ in §404(d)] finds that any person is in violation of any condition or limitation set forth in a permit issued by the Secretary under this section, the Secretary shall issue an order requiring such person to comply with such condition or limitation, or the Secretary shall bring a civil action in accordance with paragraph (3) of this subsection.”

¹⁰⁷ 33 C.F.R. 326.4(d)(3).

¹⁰⁸ 33 C.F.R. 326.5(c). The exception to this is if the case fits the criteria for forwarding to the Office of Chief of Engineers. Cases will be forwarded to the Office of Chief of Engineers if: they involve “[s]ignificant precedential or controversial questions of law or fact”; “[v]iolations of section 9 of the Rivers and Harbours Act of 1899;” “[v]iolations of section 103 of the Marine Protection, Research and Sanctuaries Act of 1972;” “violations by American Indians;” “violations by officials acting on behalf of foreign governments;” cases in which the local U.S. Attorney declines to take legal action but the district engineer believes should not be closed because they warrant special attention; or if the Department of Justice requests “elevation to the Washington level.” 33 C.F.R. 326.5(d).

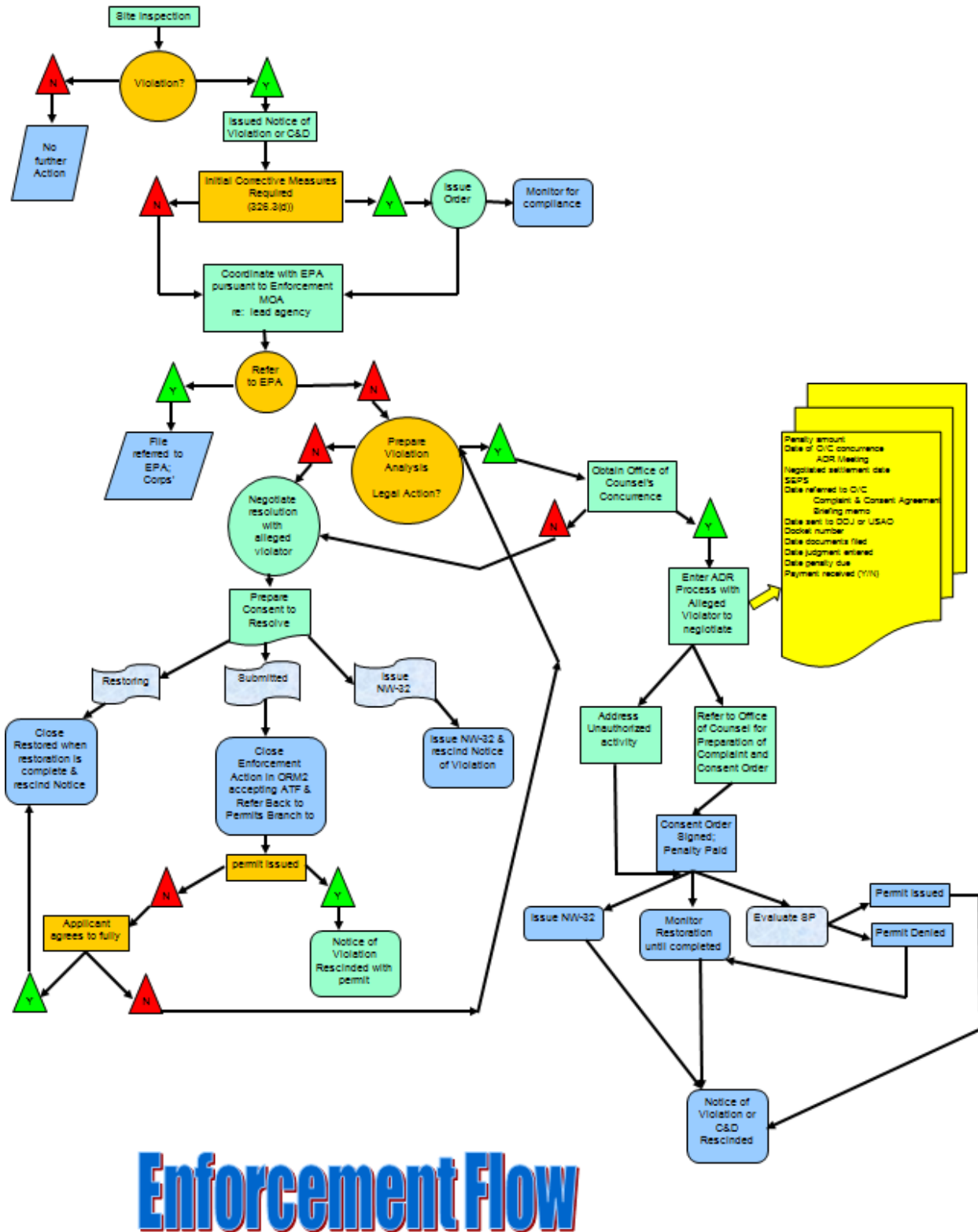


Figure 4. USACE enforcement flowchart.

Under subsection 3 of CWA §404(s) “[t]he Secretary is authorized to commence a civil action for appropriate relief, including a permanent or temporary injunction for any violation for which he is authorized to issue a compliance order under paragraph (1) of this subsection.”¹⁰⁹ Under subsection 4 of CWA §404(s) any person who violates a provision of a permit issued by the Secretary, and violates the compliance order issued by the secretary pursuant to subsection 1 “shall be subject to a civil penalty not to exceed ‘\$ 25,000 per day for each violation.’” USACE may also bring a criminal suit for negligent or knowing violations of permit conditions.¹¹⁰

In addition to civil or criminal court actions, §309 of the CWA (33 U.S.C.S 1319) authorizes USACE to seek administrative penalties for violations of any condition or limitation in a USACE permit issued pursuant to §404 of the CWA. CWA §309(g)(1)(B) states that the Secretary “may, after consultation with the State in which the violation occurs, assess a class I civil penalty or a class II civil penalty under this subsection,” whenever USACE finds a violation of condition issued under §404.¹¹¹ USACE regulations indicate the procedures for imposition of administrative penalties.¹¹² Generally administrative penalties are preferred by agencies when available as they are far quicker, easier, and less expensive for the agency to use. In addition, since courts are not involved, the agency retains greater control and discretion of the process, thus allowing the agency flexibility to expedite the process or be creative in resolving disputes.

The USACE’s regulations do mention that the EPA has independent enforcement authority under the CWA and encourages coordination with the EPA. However, the *Memorandum of Agreement (MOA) between The Department of the Army and the*

¹⁰⁹ 33 U.S.C. 1344(s)(3), 2009.

¹¹⁰ Section 309(c) of the CWA authorizes criminal penalties for negligent (309(c)(1)) or knowing (309(C)(2)) violation of “any permit condition or limitation... in a permit issued under section 1344 of this title by the Secretary of the Army or by a State”. 33 U.S.C. 1319(c), 2009.

¹¹¹ 33 U.S.C.S §1319(g)(1)(B), 2009. Class I penalties may not be greater than \$10,000 per violation and may not exceed \$25,000. 33 U.S.C.S §1319(g)(2)(A), 2009. Class II penalties may not exceed \$10,000 per day and may not exceed \$125,000 in total. 33 U.S.C.S 1319(g)(2)(B), 2009.

¹¹² The USACE enforcement regulations describe the procedures for imposing Class I administrative penalties under §309(g)(2)(A) of the CWA for violation of “any permit condition or limitation contained in [a] permit”. 33 C.F.R. 326.6(b), 2009. The regulations provide for the issuance of a proposed order assessing the Class I penalties. The regulation goes on to set several procedural requirements for imposing Class 1 penalties, including: opportunity for a hearing on the proposed order, public notice and comment on the proposed order, and require consultation with the appropriate agency in the state in which the violation occurred. 33 C.F.R. 326.6, 2009.

Pursuit of administrative penalties by USACE forecloses the option of pursuing a judicial action.” 33 C.F.R. 326.6(a)(2), 2009

Environmental Protection Agency concerning Federal Enforcement for the Section 404 Program of the Clean Water Act makes no mention of any limitation on the USACE's authority to take water-quality-related enforcement action. Like the USACE regulations, the MOA encourages coordination to prevent overlap and seeks an efficient allocation of federal resources and expertise by setting criteria for forwarding enforcement actions to the EPA. None of these criteria mention water quality issues and the MOA states that the USACE "will act as the lead enforcement agency for all violations of [USACE]- issued permits" (DOA-EPA MOA).

In 1990 the US Department of the Army and EPA issued guidance on enforcement priorities for unauthorized discharges of dredged or fill material (this includes discharges which are in violation of permit terms or conditions), which discharges violate CWA §301. This guidance listed factors that should be considered by enforcement personnel when deciding whether to refer a civil action to the U.S. Department of Justice (DOJ). It explained that the impacts of the discharge on the environment should be considered and explained that:

"...[j]udicial enforcement would normally be appropriate... for unauthorized discharges that cause or contribute to violations of state water quality standards; violate any applicable toxic effluent standard or prohibition under §307 of the CWA; or jeopardize endangered or threatened species and their designated critical habitat."

Thus, forwarding of a permit violation to the DOJ would be appropriate where the violation causes "jeopardy" to threatened or endangered species; while this protection sounds strong, a "jeopardy" finding in many instances is a rather high threshold to reach before a violation would be forwarded.

Enforcement Under Section 10 of the RHA

The USACE's enforcement options for violations of §10 of the RHA are far more limited than under §404. Section 10 violations are criminal violations¹¹³ and may give rise to a court action for injunctive relief.¹¹⁴ These methods of enforcement involve USACE

¹¹³ A violation of §10 is a misdemeanor, and under §12 of the RHA those convicted of violating §10 "shall be punished by a fine not exceeding \$2,500 nor less than \$ 500, or by imprisonment (in the case of a natural person) not exceeding one year, or by both such punishments, in the discretion of the court." 33 U.S.C. 406, 2009.

¹¹⁴ The USACE may pursue an injunction for violations of §10. According to §12 of the RHA "the removal of any structures or parts of structures erected in violation of the provisions of the said sections may be enforced by the injunction of any circuit court [district court] exercising jurisdiction in any district in which such structures may exist." 33 UCS 406.

referring the cases to the DOJ.¹¹⁵ Thus, enforcement actions for violations of §10 are handled by the district attorneys of the US (US attorneys).¹¹⁶ Proceedings for an injunction against violators of §10 are brought by the Attorney General of the US.¹¹⁷ This option is not favored since it is very costly. According to interviews with USACE, it is not often that the DOJ will pursue a §10 RHA violation; USACE officials indicated that only one or two §10 RHA enforcement cases occurred *in the entire United States* during the previous year. Thus, it is very likely that even if a violation of a §10 RHA permit comes to the attention of USACE, unless the violation is egregious and easily proven, it will most likely never reach the stage of criminal prosecution, thus leaving a gaping hole in potential enforcement. This chasm in enforcement due to the lack of multiple enforcement options such as those available under §404(b) of the CWA does not allow for optimal protection of coral reef resources outside of the 3 nm limit in the southeast Florida region.

Conclusions Related to USACE Enforcement

The approach in the USACE's regulations concerning enforcement seems different than the approach taken in sections 404 and 309 of the CWA. Section 404(s) of the CWA contains mandatory language that "the Secretary shall" take one of two courses of action upon discovering any violation of a permit condition. The Secretary shall either "issue an order requiring such person to comply with such condition or limitation, or the Secretary shall bring a civil action in accordance with paragraph (3) of this subsection."¹¹⁸ Section 404(s)(4) also states that any person who violates a provision of a permit issued by the Secretary, and violates the compliance order issued by the secretary pursuant to subsection 1 of CWA §404 "shall be subject to a civil penalty not to exceed '\$ 25,000 per day for each violation.'" 33 U.S.C. 1344(s)(4), 2009.

The USACE enforcement regulations are much more discretionary. The subsection of the USACE's general enforcement regulations that sets forth the purpose of the enforcement regulations state that: "[n]othing contained in this part shall establish a non-discretionary duty on the part of district engineers nor shall deviation from these procedures give rise to a private right of action against a district engineer."¹¹⁹

¹¹⁵ The RHA states that the Department of Justice "shall conduct the legal proceedings necessary to enforce" certain provisions of the RHA including §10. 33 U.S.C. 413, 2009.

¹¹⁶ The RHA states "it shall be the duty of district attorneys of the United States [United States attorneys] to vigorously prosecute all offenders... whenever requested to do so by the Secretary of War [Secretary of the Army]." 33 U.S.C.S 413, 2009.

¹¹⁷ According to §12 of the RHA proceedings for an injunction "may be instituted under the direction of the Attorney General of the United States." 33 U.S.C.S 406, 2009.

¹¹⁸ 33 U.S.C. 1344(s), 2009.

¹¹⁹ 33 C.F.R. 326.1, 2009.

The Phase 1 Report indicated that there is a policy or regulation which limits the USACE's enforcement authority, prohibiting the USACE from enforcing permit conditions related to water quality and turbidity even as the Phase 1 database identified fifty permit special conditions that referenced turbidity or water quality.¹²⁰ It seems this conclusion may have been a misunderstanding as there is no regulatory or statutory provision that prohibits USACE from enforcing water-quality-related special conditions in permits issued pursuant to §404 of the CWA or §10 RHA. In fact, USACE regulations require that special conditions included in USACE permits be reasonably implementable and enforceable. The MOA between the USACE and EPA regarding enforcement of permits issued under CWA §404 states that the USACE will be the lead enforcement agency for all violations of USACE-issued permits.

During Phase 2 interviews, USACE officials indicated that while USACE does, technically speaking, have authority to enforce special permit conditions related to turbidity and water quality properly included in the permit, USACE believes that enforcement of turbidity or other water-quality-related permit special conditions are more appropriately undertaken by other agencies. This argument has some merit. USACE argues that its core mission under §10 RHA is to protect navigation and under §404(b) the core responsibility is to protect wetlands. This line of argument is strongest under §10 RHA as the RHA, written in 1899, most likely did not intend to consider environmental resource impacts, but only focused on protecting navigation.

Section 404 of the CWA, on the other hand, seeks to protect wetlands and also water quality. USACE and the EPA issued a memorandum giving guidance on how to use section 404 of the CWA and section 10 of the Rivers and Harbors Act to maximize protection of coral resources (EPA Memo). This guidance emphasizes that the agencies need to be cognizant that even small increases in turbidity and nutrient loading can harm corals (EPA Memo). Regulations applicable to section 404 permitting note the sensitivity and importance of corals.¹²¹

Nonetheless, when USACE-issued permits contain special conditions related to water quality the same as those in permits issued by FDEP, it is possible to argue that FDEP is the most apt agency to enforce water-quality-related standards included in FDEP and USACE permits since FDEP has existing focus and responsibilities on both water quality and natural resource protection.

¹²⁰ Of these special conditions, fifty mention turbidity; twenty-three specifically mention water quality; and fourteen address specific turbidity limits (most using the basic standard of 29 NTU above background, but with five permits using a lower standard of 15 NTU above background).

¹²¹ 40 C.F.R. 230.44.

Two exceptions exist to the potential argument that FDEP is the more apt agency to enforce permit special conditions related to water quality. The first exception to this argument involves the environmental and legal basis for the water-quality-related special condition. FDEP special conditions based on the legal authority of the ERP program in Chapter 373 of the Florida Statutes often seek to protect state water quality standards. When these are simply adopted by USACE as special permit conditions as part of the need for federal consistency, arguably FDEP is the agency most appropriate to enforce the special condition. However, not all special conditions related to water quality emanate from the authority of the state to protect state water quality standards. USACE has independent authority and responsibility to protect resources in its permitting process. Because corals are so sensitive to turbidity and other water-quality impacts (EPA Memo), USACE's mission to protect resources may include more protective measures than those necessary for compliance with state water quality standards. For example, the Phase 1 database for this project identified permits that limited turbidity to only 15 Nephelometric Turbidity Units (NTU) above background as a way to protect sensitive coral resources.¹²² In instances where special permit conditions related to water quality or turbidity issued by USACE are more stringent than those necessary under Florida law, USACE should retain the primary responsibility for compliance activities. In all cases, potential cooperation and coordination on permit enforcement between DEP and USACE would be easier if USACE would add a permitting protocol that includes sending an electronic copy of all USACE permits in Florida to FDEP.

The second exception to the possible argument that water-quality-related special conditions are better enforced by FDEP than USACE is for projects extending beyond 3 nm. As indicated above, the State of Florida's authority in the southeast region only extends out to 3 nm. USACE, on the other hand, may regulate many activities on the ocean bed through the entire exclusive economic zone of the United States under the authority of the Outer Continental Shelf Lands Act's expansion of USACE geographic jurisdiction under §10 RHA. In these instances, it is crucial that USACE seek to exercise fully its ability to protect corals as no other agency has the authority held by USACE in these instances. Unfortunately, as noted above, the very instance in which USACE enforcement would be most important due to FDEP lack of jurisdiction, is the same instance in which USACE lacks effective enforcement authority. This same dynamic impacts any FWC or FDEP comments to USACE under federal consistency review; this is the only avenue for FWC or FDEP to have input into activities that might impact Florida's coastal zone resources, but USACE will lack the ability to effectively enforce permit conditions that might result from FWC or FDEP input. The same is true of NMFS' conservation recommendations.

¹²² See, e.g. USACE project numbers 2005-7908, 1997-6559, 2000-380, 2003-203.

The question of who should monitor and enforce which permit conditions, and under what circumstances, is a difficult question involving complex legal authorities as well as numerous issues related to agency time, money, and equipment. These issues present even more challenges due to stretched state and federal budgets during the current economic crisis. It may be that the best approach in the short term is some sort of shared responsibility that can minimize duplicative efforts and expand overall monitoring and enforcement activity through interagency cooperation. USACE's MOA with the EPA notes that both agencies are encouraged to develop interagency agreements with other local, state, tribal, or federal agencies for purposes of enforcement.¹²³

IV.D Florida Department of Environmental Protection

Neither Phase 1 nor Phase 2 indicated any significant uncertainties or issues with the legal basis or authority of FDEP to engage in C & E activities for FDEP permitting program involved in this project. Therefore, no in-depth analysis of the programs' statutory or regulatory structure was deemed necessary at this time.

As with other agencies, FDEP's permitting programs can encounter resource limitations that impact C & E capacity. FDEP's enforcement authority for its ERP programs are delineated in Florida Statute Sections 373.119 (administrative enforcement procedures) and 373.129 (maintenance of actions), and 373.136 (enforcement of regulations and orders). As partial background, the fundamental FDEP C & E options available for the most common civil actions follow five alternatives from least to most severe as paraphrased below from the SLERP Procedures Manual (*attachments* in the following text refer to documents available in the Appendix of the Procedures Manual).

1. Send a Non-compliance Letter. The non-compliance letter is normally used when the violation is minor. If it is determined by the compliance inspector and his or her supervisor that the violations are minor, the compliance inspector normally prepares and sends out a non-compliance letter that explains the violations and directs the violator to correct the violations within a specified period of times. Two examples of non-compliance letters are in Attachment A. If the violations are corrected within the specified period of time, no further enforcement action is taken. This letter should be sent certified, return receipt requested.

2. Send a Warning Letter. The Warning Letter is normally used if the violations are more serious and their resolution requires a consent order, but which are not causing immediate significant harm to the environment or public welfare. Warning Letters

¹²³ Memorandum of Agreement between The Department of the Army and the EPA concerning Federal Enforcement for the Section 404 Program of the CWA, §IV.A, available at:

<http://www.epa.gov/wetlands/regs/enfmoa.html>.

should be sent certified, return receipt requested. [FDEP] is not required to send a Warning Letter in every case. The form for the warning letter is in Attachment B.

3. Issue a Notice of Violation (NOV). NOVs are administrative complaints issued by the [FDEP] to a violator or Respondent. NOVs should be used when you believe the Respondent will comply with restoration requirements if ordered to do so, or if you want the Respondent to pay administrative fines for proprietary violation. The NOV sets forth the facts which [FDEP] believes supports the alleged violations. The facts and the alleged violations are contained in the Finding of Facts Section of the NOV. The NOV also contains a Section containing the Orders for Corrective Action. This Section orders the Respondent to take certain actions within a specified period of time to come into compliance with [FDEP's] rules and statutes. The final Section of the NOV is the Notice of Rights. This Section notifies the Respondent of his rights to contest the [FDEP's] allegations. NOVs must be reviewed by OGC before the [FDEP] issues them. NOVs can be used for both types of violations. The form for a NOV of an ERP can be found at the OGC website at:

http://www.dep.state.fl.us/legal/Enforcement/appendix/Generic_NOV.doc.

The NOV for state lands/WRP violations is at:

http://www.dep.state.fl.us/legal/ELRA_related/StateLands_DF_NOV.doc.

The cover letter for the NOV is in Attachment C of the Procedures Manual. NOVs should be sent certified, return receipt requested.

4. Submit a case report. A case report is a request to file a lawsuit against the violator. The case report is submitted to the Deputy General Counsel for assignment. A case report is prepared if the C&E staff want OGC to pursue some type of judicial action such as an injunction or a civil lawsuit. The case report explains the facts of the case and the rules that have been violated. The case report form can be found at the OGC website http://www.dep.state.fl.us/legal/Enforcement/appendix/Enforcement_Process/caserep1.doc. Before deciding to pursue this option, the C&E Inspector should discuss with a supervisor. A case report must be approved by the Director of District Management before it is forwarded to OGC for assignment. The attorney who is assigned the case will prepare a Request for Authorization to Sue memo for the General Counsel. Once the Authorization to Sue is approved, the case can be filed. The case report should only be used as a first step if the violation is causing a significant, potential health threat or potential significant harm to the environment, or if the violator will not comply with administrative orders, or the violator will not pay appropriate penalties.

In cases where quick action is needed to prevent an ongoing violation, the district has the option of requesting that OGC move for a temporary injunction. A temporary injunction is an order of the court which usually requires the violator to take actions to prevent threats to human health, welfare, or the environment. In such a case, the district

should prepare a Case Report for Temporary Injunction (See Enforcement Manual) and send it to the Deputy General Counsel for Enforcement who will assign to an enforcement attorney. The Case Report for Temporary Injunction can be used for both proprietary and regulatory violations. Once the case is assigned the attorney is responsible for preparing the lawsuit and directing the litigation.

5. Enter a Consent Order. Most cases are settled through a consent order. A consent order is an administrative order issued by the [FDEP] in which the [FDEP] and the violator agree to settle the violation on the terms and conditions contained in the consent order. Attachment D is the cover letter for a proposed consent order. Once a consent order is entered by the [FDEP], it should be sent to the Respondent with a cover letter, Attachment E. Consent Orders and their cover letters can be used for both types of violations.

There are three types of consent orders: model consent orders, short-form consent orders, and regular consent orders.

a. Model Consent Orders: Model consent orders are pre-approved by the Office of General Counsel. They contain standard provisions, which should be included by the district as appropriate. They do not require further review by OGC. At this time there is no model consent order for SLERP.

b. Short-form Consent Orders: Short-form consent orders are also pre-approved and are used only to collect money, and only if all of the corrective actions have been completed. The short-form Consent Order form is at the OGC website: <http://www.dep.state.fl.us/legal/Enforcement/appendix/models/sfco.doc>.

c. Regular Consent Orders: Regular consent orders require OGC approval before they are sent to the violator or entered by the [FDEP]. They should be used in cases in which neither the model, nor the short-form consent order, are appropriate. The regular consent order form can be found on the OGC website: <http://www.dep.state.fl.us/legal/Enforcement/appendix/models/slerpcoc.doc>.

V. Overall Compliance & Enforcement Program Review and Lessons Learned

This section summarizes conclusions from Phase 1, Phase 2 responses to Phase 1 conclusions (when appropriate), additional Phase 2 research conclusions, and input from interviews. Information related to most or all agencies involved is presented before lessons from individual agencies. Findings that cut across virtually all agencies include:

1. All regulatory programs experience shortages in resources for compliance inspection and monitoring, particularly with regard to projects located offshore;

2. Extensive informal interagency coordination on C & E already exists;
3. Interagency coordination and informal professional relations could be improved through increased *field-based* cooperation between agencies (however, agencies also expressed frustration that travel budgets have already been severely curtailed due to the current economic situation);
4. USACE and involved segments of FDEP have developed, or are in the process of developing, template special permit conditions;
5. Agencies rarely or never use independent, third-party monitoring for permit conditions related to coral protection;
6. Agencies went through a period of high demand for sea-bottom cable placement during the technology boom; this demand has almost disappeared even as FDEP, for example, has now developed recommended corridors for placement to minimize bottom impacts;
7. Supervisory officials (more than staff) expressed concern that interagency templates for special conditions would make it more difficult to change in response to new information coming in quickly on the steep learning curve for coral protection;
8. Amount of mitigation to require is *not* something that should be included in any effort to develop templates for special conditions since the amount of mitigation can be quite different between agencies. Nonetheless, C & E can be made easier by seeking to harmonize the requirements for the *type* of mitigation conducted as well as accepted methods, materials and monitoring necessary for the mitigation.

Findings more specific to particular agencies are included below.

V.A NMFS, EFH, and the ESA

NMFS Habitat Conservation Division's EFH conservation recommendations related to turbidity and water quality that result from USACE consultation are not directly required to be implemented as permit special conditions, but if USACE chooses not to implement NMFS HCD's recommendations, USACE must respond to NMFS HCD in writing to document why USACE is not adopting NMFS HCD's recommendations. In addition, adopted NMFS EFH conservation recommendations incorporated into USACE permits are not always effectively monitored or subject to compliance actions for failure to comply. NMFS does do a small amount of implementation checks on projects on which it has commented; however, due to time and cost considerations, projects reviewed are typically not the type of open-water projects most likely to impact coral reef resources. Detail on NMFS SOPs for evaluating compliance with EFH conservation recommendations is provided in Appendix 4.

NMFS recognizes the need to exercise great vigilance in its next round of 5-year review of nationwide permits (NWP). There are cases where NWPs are verified and USACE assumes no impacts even though USACE may have minimal site specific information to

assess impacts. NMFS understands that part of this stems from applicant expectations of rapid turn-around time on NWP's. Finally, NMFS and USACE also do not always agree on which projects should qualify for NWP's.

NMFS indicated that it and USACE sometimes do not agree on the threshold of impacts at which a permit modification must undergo additional consultation. Furthermore, consultation based on modifications can vary tremendously from one USACE office to another.

When NMFS Protected Resources Division issues a BO under the ESA that authorizes "take" and includes "reasonable and prudent measures" (RPMs) required to be implemented, USACE typically incorporates the BO by reference into the permit instead of adding special conditions that would directly implement the BO's RPMs and terms and conditions. This may lead to additional confusion for the permittee who will now have to not only review the permit, but will now also need to search through the BO—which may be more than 50-80 pages—to try to locate and understand the required RPMs and terms and conditions. In addition, "incorporation by reference" of an EFH mitigation plan or BO into a permit may cause problems if the mitigation plan and BO was not drafted with careful consideration of the clarity of terminology, dates, and activities necessary for it to be readily enforced should this be necessary. This same dynamic applies to "reasonable and prudent alternatives" that might be included in a BO to avoid a finding of "jeopardy" or "destruction or adverse modification" of critical habitat.

The ESA's §7 limitation on federal actions that result in destruction or adverse modification of designated critical habitat seldom acts as a significant limit on impacts since it is not clear when impacts reach the level of "destruction or adverse modification." It appears that "destruction or adverse modification" may not even be a relevant consideration as this threshold is seldom found to have been reached.

An interview with the NMFS office in Puerto Rico indicated that relations between USACE and NMFS have improved to very good current relations due in part to development of extensive joint field visits to project sites and joint meetings made possible by the opening of the Caribbean Field Office in 2001. The ability to work closely together has fostered better professional working relationships and greater understanding between those in each agency. In addition, NMFS' ability to actively participate in monthly open meetings sponsored by USACE where would-be permit applicants can come and meet with the U.S. Coast Guard, NMFS, USACE, FWS, EPA, and local resource protection agencies to discuss potential projects and the concerns that each agency may have related to proposed projects has also resulted in better relations.

NMFS indicated that it sees the possibility to use its new 2009 “Atlantic Branch SOP for Evaluating Compliance with EFH Conservation Recommendations,” (see Appendix 4) to also develop information for USACE review of compliance for USACE permits. Even the development of this document indicates valuable interagency coordination as both FDEP and USACE commented on the document during its development. The ability of NMFS to implement the SOP is largely based on current staff and funding capacity. Due to limited capacity, projects reviewed under the SOP are typically not the open-water projects that would most impact coral resources in the southeast Florida region.

V.B USACE

USACE has the authority to include a broad range of special conditions to protect resources, such as corals, under the authority of USACE’s “public interest” review for permitting.

The efficacy of including special conditions in USACE permits is not always clear due to numerous factors. First, since USACE conducts no in-water monitoring, USACE is entirely dependent upon self-monitoring reports that permittees are required to submit. On many occasions permittees fail to submit proper reports, and USACE’s permit tracking system has no automatic function to alert permit managers that the reports have not been timely submitted. Conversations on this issue with FDEP indicated that even though all FDEP branches have such automatic notification systems, it requires good institutional processes to assure they work correctly. The greatest challenge is that an automated system must be configured properly for each permit, which would in any case be difficult for USACE since their self-certification reports are typically due at the completion of construction, and USACE does not know when construction will be completed.

Assuming the self-monitoring reports are submitted, the information in them would have to be accurate. While no specific data suggests an accuracy problem in USACE self-monitoring reports, questions might arise on this point since permittees might be reluctant to deliver monitoring reports demonstrating non-compliance with permit conditions. FDEP indicated, for instance, that they have encountered cases in which turbidity-monitoring data gathered by the permittee does not coincide with independent FDEP turbidity monitoring.

Staff in Phase 1 identified the following issues for permit special conditions: 1) identify a date certain for all permit requirements; 2) ensure that the burden of conducting compliance monitoring falls on the permittee so that USACE is aware of noncompliance issues without having to conduct field investigations for each permit; 3) develop a template document for self-certification for compliance with all permit conditions; and 4) ensure that permit conditions are not too long or difficult to read easily. In addition,

Phase 1 interviews indicated that staff understood that special conditions related to turbidity or water quality protection (such as required use of turbidity curtains) were *not* enforceable by USACE; this misunderstanding should be clearly and aggressively addressed by USACE.

Phase 2 research and interviews indicate that USACE does not lack authority to enforce special conditions related to water quality. As discussed above, under the “public interest review” that comprises part of all USACE permitting, USACE has broad authority to include special permit conditions to protect the public interest, including natural resources such as coral. All such conditions are legally enforceable by USACE. Nonetheless, as also indicated above, USACE believes that FDEP is a more appropriate agency to enforce water quality standards as FDEP has authority to establish water quality standards, require water quality certification under section 401 of the CWA, and has permitting authority under Florida’s ERP program to protect water quality standards and the functional value of waters for fish and wildlife. The focus of FDEP leads USACE to view FDEP as the more appropriate agency for implementing protections related to water quality (USACE often simply incorporates water-quality-related special conditions from FDEP permits into USACE permits to comply with water quality certification requirements). However, USACE is the only agency that can enforce water-quality-related special conditions that are more stringent than those FDEP requires to comply with water quality standards. In other words, because corals are so sensitive to water-quality impacts, a USACE permit may require a special condition limiting turbidity to 15 NTU—below what is usually required to comply with the current state standard of 29 NTU. If this is so, only USACE has the authority to conduct compliance activities to ensure compliance with this limitation.

Additional results of participation by USACE in Phase 2 include:

1. USACE cannot issue individual permits until FDEP has issued any necessary state permits (due to federal consistency requirements in the CZMA and section 401 water quality certification under the CWA);
2. Agencies such as USACE and FDEP already work to coordinate permit mitigation requirements in some instances;
3. Florida’s expansive “Sunshine Laws” may hamper greater information sharing between Florida and USACE in enforcement actions since these Florida laws give less privacy protection than federal laws under which USACE operates;
4. USACE has no tracking system to alert USACE to permit recipients that fail to timely submit self-certification reports (a previous system did have this functionality);
5. Lack of USACE administrative penalties for compliance activities for §10 RHA virtually eliminates USACE compliance since very few cases of §10 noncompliance are ever prosecuted under current system; USACE indicated it

would be inclined to pursue more compliance activities under §10 if USACE had administrative penalties authority;

6. USACE has some authority under the OCSLA to protect resources beyond 3 nm through §10 RHA, but OCSLA jurisdiction under §10 RHA may be interpreted narrowly or more broadly, and past permitting practices do not always make clear when or why USACE will exercise jurisdiction under OCSLA;
7. When artificial reefs are created outside of 3 nm from shore in the southeast Florida region, USACE may only permit them under §10 RHA and not under §404(b) since CWA jurisdiction only extends 3 nm from shore. This results in a permit that is much less likely to be enforced for noncompliance than if it were issued under §404(b) CWA;
8. USACE's regulatory program depends almost entirely on self-reporting for monitoring and compliance with only a very small percentage of permits subject to Congressionally-mandated compliance monitoring or checks on accuracy of self-reported information;
9. USACE does not require the use of independent third-party monitors except in the case of turtle observers required by a biological opinion issued pursuant to the ESA;
10. USACE supervisory officials did not favor the possibility of including a checklist at the beginning of a permit (recommended in Phase 1 to assist permit holders in complying with their permits); USACE officials suggested that this would be beyond the authority of USACE to include in a permit and that this would create additional work for permit processors.

V.C FDEP

All FDEP regulatory branches suffer from a lack of properly certified divers to conduct monitoring or information gathering for enforcement activities (the FDEP Office of Coastal and Aquatic Managed Areas has divers, but they often cannot travel due to time constraints and travel restrictions due to funding cuts). In addition, state resource agencies lack jurisdiction to comprehensively protect corals beyond 3 nm from the shore even though FDEP and the FWC have some ability to seek to protect corals beyond the 3 nm limit through federal consistency review (discussed above).

1. Agencies such as USACE and FDEP already work to coordinate permit mitigation requirements in some instances.
2. Tight permitting timelines for the state can sometimes present challenges for cooperation between FDEP and USACE. For example, the statutory permitting clock may already be started for FDEP before USACE has identified a processor for the permit and relayed this information back to the FDEP permit processor.
3. A significant portion of FDEP permits are for local governments, which become very defensive when they might be in violation of their permit.

4. The FDEP BBCS program, JCP program, and FDEP Southeast District have computer databases with automatic “tickler” systems that alert officials to upcoming permit events or delinquent status.
5. Electronic turbidity monitoring devices recommended by staff in Phase 1 may be prohibitively expensive for large-scale deployment. Nonetheless, FDEP is interested in increased use of these as FDEP has sometimes had concerns about turbidity monitoring reports submitted by permittees.
6. Expanded formalization of cooperation between state and federal agencies is probably not a realistic goal; it has been discussed for decades, but differing philosophies on public notice and differing wetland delineation methods, among other issues, make any such effort likely to fail. A better approach is to try to make existing informal cooperation networks more robust and clearly institutionalized within respective agencies so that the cooperation remains vibrant regardless of staff turnover within agencies.

Southeast District Office and Submerged Lands ERP Policy Office

Staff in Phase 1 recommended: 1) including a checklist at the beginning of permits; 2) clearly including reporting addresses and contact information as well as submittal dates in permits; 3) grouping special conditions under headings to improve organization; 4) adding a date certain and detailed reporting requirements whenever possible; 5) clearly defining all terms in a permit (i.e., coral reef, equilibrium toe of fill, etc.).

During Phase 2, supervisory level officials indicated that a significant challenge in ERP C & E is proving the source of sedimentation impacts since the ocean system can be so dynamic that, even without major projects, some areas of hardbottom frequently are exposed and covered again. The Southeast District Office stated that it manages to engage in a significant amount of spot-checking and monitoring for compliance with larger projects under its jurisdiction. Phase 2 indicated that the Southeast District office of FDEP: 1) on larger projects will sometimes require use of a neutral third party for monitoring with costs paid by the permittee; 2) some changes to reef construction and transplantation result from the listing of *Acropora* corals; 3) treasure hunters are a constant issue, though it is difficult to know exactly how much damage they are doing since most treasure hunters refuse to give FDEP specific locations where they are operating and claim that they are working under federal laws that exempt them from FDEP regulation.

One of the most significant needs identified by the Southeast District Office during Phase 2 was a need for more information on mitigation. For example, What is most successful? How much is enough? Is mitigation sometimes insufficient to address impacts?

FDEP's Submerged Lands ERP Policy Office indicated that is developing an internal guidance document that will be used to inform new employees of the processes, agencies, and people involved in the consultation and coordination network among agencies.

Bureau of Beaches and Coastal Systems (BBCS): Joint Coastal Permit (JCP) and Coastal Construction Control Line (CCCL) Sections

In Phase 1, staff recommendations included: 1) Use of neutral, third party monitors rather than having the same contractors conducting the project also doing self-monitoring; 2) execution of mitigation prior to impacting resources; and 3) inclusion of remediation and monitoring requirements for any impacts discovered in the post-project survey that were not anticipated as part of the project in the permit; 4) ensure that any monitoring and mitigation protocols established by the permittee are submitted during the permitting process for approval rather than only required to be submitted *after* permit issuance through a special condition; and 5) more specific and detailed methodologies for monitoring and sampling activities such as use of the best available technology for sampling. One example given was the use of high-resolution electronic turbidity monitors that can record 24-hours a day.

During Phase 2 interviews, supervisory officials expressed that a very positive aspect of their program is that they have a coral expert within their agency (Dr. Vladimir Kosmynin). Other positive developments include creation of a programmatic enforcement position for the JCP program (Charlotte Hand) and an on-going effort to develop a database of template special permit conditions. They also mentioned that the Legislature funded a project to study hardbottom, understand the ecological functions of coral, and how to mitigate impacts. Issues identified during Phase 2 included: 1) the difficulty of attributing resource impacts to permitted projects; 2) excessive political influence in permitting; 3) only a single C & E position dedicated to tracking deliverables and deficiencies without sufficient time to conduct any compliance inspections in the field; 4) staff turnover sometimes causes problems; 5) permits sometimes only attach mitigations plans instead of making them part of the permit through special conditions, which has sometimes resulted in mitigation plans that are not as carefully designed to be enforceable as they should be. Phase 2 discussions about staff recommendations for independent, third party monitoring revealed that efforts to include monitoring by an independent, third party in JCPs are sometimes successful (on the largest projects) but other times have been rejected due to increased administrative costs. The CCCL program typically does not include independent, third party monitoring in its permits.¹²⁴

¹²⁴ An exception to this has been extensive monitoring of sand depths and turtle nesting in some instances of permitted geotextile tubes.

Phase 2 documented concerns that the JCP program does not have an emergency permitting process in place for use after storms as the CCCL program does. This results in great frustration by permit applicants (usually local governments) in the aftermath of significant erosion events. In such cases, permittees will often go to the CCCL program for a permit for a quick fix before going to the JCP to get a permit for a longer-term fix such as beach nourishment.

As noted previously, the CCCL program seldom issues permits that directly affect coral. Nonetheless, Phase 1 included CCCL staff because of the potential for learning lessons applicable to other programs, and the role of CCCL field inspectors as support for enforcement of JCP and ERP activities along the beach. Concerns expressed by staff in Phase 1 included: 1) lack of staff and time for C & E activities due to extensive time spent conducting “windshield surveys” of erosion and storm damage; 2) need for equipment (i.e., 4-wheel drive vehicle and ATV) to access difficult beach locations; and 3) lack of respect from the public based on perception that FDEP does not enforce violations.

In addition, the CCCL program often permits structures near beaches and mean high water lines. These structures can then contribute to an increase in beach nourishment or dune repair. Since beach nourishment and the dredging that it requires create a potential risk of harm to corals, CCCL permitting decisions may have an indirect impact on coral resources. Therefore, it may be advisable to more fully evaluate the indirect but potentially significant cumulative impacts of CCCL permit decisions on beach nourishment and sustainable coral management.

V.D Florida Fish and Wildlife Conservation Commission

While no one at the FWC was part of an individual interview for Phase 2 of this project, Lisa Gregg did participate extensively in the public meeting conducted in Tallahassee. In addition the project team communicated via phone and e-mail with Erin McDevitt of FWC. These individuals provided insight into the role that FWC plays in permitting and the protection of corals. For example, FWC manages special activity licenses (SALs) that must be secured for the relocation or harvesting of corals. FWC also exercises potentially significant authority through federal consistency review under the CZMA. For more information, see section “Federal Consistency Review” above. FWC indicated that it is in the process of developing what amount to special condition templates for coral protection but that FWC will seek USACE and FDEP input before finalizing their template special conditions.

VI. Analysis of Permit Conditions

Permits typically contain both standard conditions (those included in all permits from an agency) and special conditions to address the specific activity in the permit and potential impacts of the proposed activity. Phase 1 of this project developed a suite of recommended special conditions for specific types of activities. These included: 1) Shoreline Stabilization Conditions; 2) Dredging Operation Conditions; 3) Port Maintenance and Expansion Conditions; 4) Commercial Dock and Marina Conditions; 5) Energy and Utility Line Conditions; and 6) Artificial and Mitigation Reef Conditions.

Phase 2 continued the examination of template special conditions with the agencies and permitting authorities involved in this project. The Phase 2 public meetings with various state and federal agencies indicated that parts of FDEP as well as USACE were in the process of developing databases of template special conditions. Use of template special conditions can greatly benefit coral protection by using past experience of an agency in improving the formulation of special conditions; these improved conditions can then be incorporated into the template special conditions database from which permit application reviewers and processors should draw the initial special conditions for permits and, as necessary, modify them for the specific project.

Phase 2 also continued the work of Phase 1 by comparing the Phase 1 recommended special conditions (available in Appendix 5) and special conditions from the templates under development by offices of Florida's DEP; the USACE; and NOAA's office for Puerto Rico and the Virgin Islands (Appendix 6) to create a revised list of recommended template special conditions for coral protection..

This comparison and analysis resulted in a final recommended list of template special conditions that largely reflects the recommended special conditions from Phase 1 with some changes based on comments and draft agency templates. In the below list of Phase 2 recommended template special conditions, each special condition is cited with the source(s) from which the special condition(s) was (were) copied. Changes from the original source are underlined if an addition and stricken-through if a deletion. Many of the special conditions contain blanks to be filled in, or material specific to an agency or office (i.e., addresses, contact information, etc.); these have often been left in place and would need to be altered if the special condition is to be used by other agencies. In some cases, issues or concerns with a special condition have been added via commentary, capitalized, and inserted in brackets [...], or inserted into a footnote.

It is the intent of the authors that these recommended special conditions be considered for use by FDEP, USACE, NOAA, and local government regulators. At minimum, it is the authors' hope that clearly articulating these template special conditions can form the basis for communication between agencies on the best possible template conditions and how to implement use of template conditions while maintaining agency integrity and

flexibility. Greater inter-agency awareness and sharing in the process of establishing their respective lists of template special conditions can improve C & E by creating less confusion for permittees and simplifying cooperation on monitoring and C & E activities between agencies – and coral resources will be better protected.

The following comprises the final recommended template special conditions for Phase 2 of Combined MICCI Project 4, 21, 23, 24 in regards to these project types:

- MULTIPLE PROJECT TYPES
- CABLE/LINEAR/UTILITIES PROJECTS
- BEACH FILL/NOURISHMENT PROJECTS
- DREDGING OPERATIONS
- ARTIFICIAL REEF PROJECTS
- PORT MAINTENANCE AND EXPANSION
- COMMERCIAL DOCKS AND MARINAS

The special conditions came from consideration of six different sources. After each special condition appears a number in brackets indicating the primary source(s) for the template special condition. The bracketed numbers correspond to the following sources:

[1] : USACE DRAFT SPECIAL CONDITIONS, FEB. 17, 2009

[2]: SEFCRI MICCI COMBINED PROJECT 4, 21, 23, 24, PHASE 1, AUG. 2009

[3] : FDEP SOUTHEAST DISTRICT OFFICE MODEL CONDITIONS

[4] : NOAA office in Puerto Rico/U.S. Virgin Islands

[5] : USACE permit # SAJ-2008-1107

[6] : USACE, Jacksonville Dist. Local Master Guide Specification (April 2006)

[7] : SEFCRI MICCI COMBINED PROJECT 4, 21, 23, 24, PHASE 2, FEB. 2011

MULTIPLE PROJECT TYPES

1. Pre-construction

- a. The permittee shall ~~conduct~~ have a pre-construction meeting with the Florida Department of Environmental Protection, the Florida Fish and Wildlife Conservation Commission, the U.S. Army Corps of Engineers, and [ADD OTHER AGENCIES IF APPLICABLE] at a minimum of 30 days prior to commencement of construction. The permittee is responsible for scheduling this meeting with all required agencies. ~~The permittee shall provide a minimum of a 30-day advance written notification of the pre-construction meeting, to the agencies.~~ The permittee shall develop training modules relating to coral reef resource awareness, identifying and mapping of coral communities, and resource protection measures. The permittee shall submit the training modules to the agencies for review and approval for use during the pre-construction meeting. The permittee will be required to implement

- these training modules to all staff that are engaged in any aspect of this construction project. The permittee shall submit signed certifications of coral reef resource awareness training completion for each staff member within 7 days of that staff member beginning work on any aspect of this project.¹²⁵ [2]
- b. Within 60 days prior to construction the permittee shall conduct a pre-construction survey to document the size, ~~and position,~~ and depth (i.e. – full bathymetric survey) of all coral colonies and other benthic resources within the construction footprint and within [INSERT # OF FEET] buffer area as indicated on attached map [INSERT NAME/DESCRIPTION OF ATTACHED MAP]. The pre-construction survey and bathymetric data must be received by the agencies no later than 15 days prior to construction. [2]
 - c. After selection of the contractor to perform the authorized activities and prior to the initiation of any work authorized by this permit, the permittee (or authorized agent) and the contractor shall contact Sunshine at 1-800-432-4770 to request a subaqueous locate of the [EXISTING TRANSMISSION LINES, ETC.]. At which time, [FLORIDA POWER AND LIGHT, ETC.] will locate the route of the existing facility within the project boundary. Dredging activities shall be required to remain a minimum of [INSERT # OF FEET] away from the [NAME] facility. [3]
 - d. The permittee shall be responsible for ensuring that the permit conditions are explained to all construction personnel working on the project, and for providing each contractor and subcontractor with a copy of this permit before construction begins. [3]
 - e. All watercraft associated with the construction of the permitted structure shall only operate within waters of sufficient depth (one-foot clearance from the deepest draft of the vessel to the top of submerged resources) so as to preclude bottom scouring, prop dredging, or damage to submerged resources. Permittee shall verify this by submitting to [INSERT PROPER AGENCY NAME AND CONTACT], at least 15 days prior to commencement of construction, the required pre-construction survey [see 1.b. above] with bathymetric survey and the maximum loaded draft and estimated positions of vessels involved in the project. [3] [2]
2. Turbidity:
- a. Turbidity barriers:¹²⁶ Prior to the initiation of any work authorized by this permit, floating turbidity curtains with weighted skirts that extend to within 1 foot of the bottom shall be placed around the project site. The curtains shall

¹²⁵ Rather than having each permittee reinvent the wheel by developing training materials for coral resource awareness, it should be considered whether the training materials being developed for this project might serve this need.

¹²⁶ In general, turbidity barriers are not feasible for use in work conducted in the open ocean. Turbidity barriers are more useful in protected waters such as bays and estuaries.

be maintained and shall remain in place for the duration of the project construction to ensure that turbidity levels outside the construction area do not exceed **[INSERT # OF NTUs]** above background levels. The permittee shall be responsible for ensuring that turbidity control devices are inspected daily and maintained in good working order so that there are no violations of state water quality standards outside of the turbidity screens.

The following ~~measure~~actions shall be taken immediately by the permittee whenever turbidity levels within waters of the State surrounding the project site exceed **[INSERT # OF NTUs]** above background:

- a. Notify the **[INSERT CORRECT AGENCY CONTACT INFORMATION]** at the time the violation is first detected.
 - b. Immediately cease all work contributing to the water quality violation. Operations may not resume until the department gives authorization to do so.
 - c. Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, install more turbidity containment devices, and repair any non-functional turbidity containment devices. [3]
- b. Turbidity Monitoring for Areas Not Within an Aquatic Preserve: Water turbidity levels shall be monitored and recorded at least every **[INSERT # of HOURS]** hours during dredging operations or upon the occurrence of other circumstances that might create water quality violations on site. Samples shall be taken one foot above the bottom, mid-depth, and one-foot below the surface at monitoring stations located as follows:
- a. Approximately 100 feet up-current of the work sites and clearly outside the influence of construction activities. (This shall serve as the natural background sample against which other turbidity readings shall be compared.)
 - b. Directly outside the turbidity curtains surrounding the work sites and within the densest portion of any visible turbidity plume. (This sample shall serve as the compliance sample.)

If at any time during construction, the turbidity level directly outside ~~the turbidity curtains surrounding~~ the work sites exceeds **[INSERT # OF NTUs]** above natural background levels, the permittee or permittee's contractor shall take the following actions: (1) immediately cease the operations that cause the water quality violations; (2) notify the ~~Department's Division of Environmental Resource Permitting~~ **[INSERT CORRECT AGENCY CONTACT]** at the time the violation is first detected; and (3) modify the work procedures that were responsible for the violation. [3]

- c. Turbidity Curtains¹²⁷ and Conditions Inside Aquatic Preserves: Prior to the initiation of any work authorized by this permit, floating turbidity curtains with weighted skirts that extend to within one foot of the bottom shall be placed around the project site. The curtains shall be maintained and shall remain in place for the duration of the project construction to ensure that turbid discharges do not occur outside the boundaries of the floating turbidity screens. Turbidity levels outside the construction area shall not exceed 0 NTUs above ambient levels. The permittee shall be responsible for ensuring that turbidity control devices are inspected daily and maintained in good working order during all phases of construction authorized by this permit until all areas that were disturbed during construction are sufficiently stabilized to prevent turbid discharges.

The following measures shall be taken immediately by the permittee whenever turbidity levels within waters of the State surrounding the project site exceed ambient turbidity levels of the surrounding Outstanding Florida Waters:

- a. Notify ~~the DEP Southeast District XBranch Office ERP Compliance/Enforcement Section at 561/681-6600~~[FOR PALM BEACH, BROWARD, DADE] ~~or 772/398-2806~~[FOR MARTIN, ST. LUCIE, OKEECHOBEE] **[INSERT CORRECT AGENCY CONTACT]** at the time the violation is first detected.
- b. Immediately cease all work contributing to the water quality violation. Operations may not resume until the department gives authorization to do so.
- c. Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, install more turbidity containment devices, and repair any non-functional turbidity containment devices. [3]
- d. Turbidity Monitoring Reports. During construction, the permittee or permittee's contractor shall, once each week, submit daily monitoring reports ~~on a weekly basis~~ containing the turbidity data gathered. These reports shall be submitted to **[INSERT CORRECT AGENCY CONTACT]** to the Department of Environmental Protection, Southeast District XBranch Office, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section, Attention: Richard Stalker, 400 North Congress Avenue, Suite 200, West Palm Beach, Florida 33401 (phone: 561/681-6643)[FOR PALM BEACH, BROWARD, DADE] ~~or Attention: Eric Shea, 1801 SE Hillmoor Drive, Suite C 204, Port St. Lucie,~~

¹²⁷ In general, turbidity barriers are not feasible for use in work conducted in the open ocean. Turbidity barriers are more useful in protected waters such as bays and estuaries.

Florida 34952 (phone: 772/398 2806)[~~FOR MARTIN, ST. LUCIE, OKEECHOBEE~~]. The reports shall contain the following information:

1. permit number
2. project name
3. a listing of which permit conditions the report fulfills
4. dates of sampling and analysis
5. turbidity sampling results, with units of measure
6. description of data collection methods
7. a map indicating the sampling locations, current direction, location of discharges (if any), and plume configuration (if any)
8. time of day profile was taken
9. depth of water body
10. weather conditions at times of sampling
11. tidal stage and direction of flow
12. wind direction and velocity
13. water temperature
14. DGPS reference point

Furthermore, each monitoring report shall include a statement by the individual responsible for implementation of the sampling program attesting to the authenticity, precision, limits of detection, and accuracy of the data. [3]

3. Mooring/ Anchoring/Operations

- a. Barge and support vessels shall be required to anchor in sandy bottom. If areas of sandy bottom are not available, U-bolts marked with buoys shall be installed for moorings of vessels during construction ~~the cable laying operation~~. The location of all anchorage areas shall be clearly marked on the project maps so that these sites can be reused should ~~cable~~ repair or other future work in the area be necessary. [4]
- b. The permittee agrees to position beacon transponders on the anchors deployed within 100 feet of any ~~existing~~ telecommunications cables, gas pipelines, other utility lines, or benthic resources to record for any anchor movement or drag. Upon detection of any anchor movement, tension on the anchor line to that anchor will be reduced as necessary to stop the anchor movement. In addition, upon detection of anchor movement divers and/or ROV shall be dispatched within 48 hrs to investigate whether any impacts to cables, gas pipelines, other utility lines, or benthic resources have occurred, and determine what actions are necessary to avoid additional anchor movement (including possible resetting or replacement of the anchor). If impacts from anchor movement (~~or communication cable movement caused~~

- by ~~anchor movement~~) are discovered, appropriate reports shall be made to the regulatory agencies within 7 days.¹²⁸ [2]
- c. The Permittee shall prevent any physical damage to benthic resources by establishing ingress and egress corridors to the work site and no-anchoring zones adjacent to and over mid-water and offshore marine habitats, except those near the established and approved pipeline corridors. The permittee shall preclude anchoring within the No-anchoring zone identified on the project drawings. All operations shall be conducted in a manner so as to eliminate the possibility of equipment dragging on the bottom and damaging natural resources. [5]
 - d. The permittee shall ensure that precautions are taken to prevent damage from occurring to the existing reef resources as a result of cable drag, equipment drag, scour wash, or other construction activities. The permittee shall prevent scouring of benthic resources during all operations:
 - Any towed vessels such as barges, scows and the like, shall be either lashed directly to the dredge or the tow vessel, with no cable in the water (e.g., by a “bridle” tow or “on the hip” of a tug), or connected to the tow vessel by floating line.
 - All cables must be floated in all water depths to avoid impact to submerged aquatic resources.
 - All operations will be conducted in a manner that eliminates the possibility of dragging cable or other equipment along the bottom and damaging aquatic resources.¹²⁹ [2]
 - e. All vessel movement and construction activities shall take place during daylight hours only. For the purposes of this permit, daylight shall be defined as occurring from 30 minutes before sunrise to 30 minutes after sunset. [2]
 - f. The permittee shall submit an Emergency Spill Response Plan for all vessels operating in association with the project authorized herein a minimum of thirty days prior to the commencement of construction. Agency approval of the emergency Spill Response Plan will be required prior to commencement of construction. [2]
 - g. The permittee shall submit an Operational Storm Contingency Plan that describes the actions to be taken in response to storm events (e.g. hurricanes, high-sea conditions and/or operational failures (e.g. breaks in the dredge pipelines)) a minimum of thirty days prior to the commencement of construction. Agency approval of the Operational Storm Contingency Plan will be required prior to commencement of construction. [2]

¹²⁸ This condition should be used in concert with a remediation requirement in the event that damage has occurred.

¹²⁹ This condition should be used in concert with the pre- and post-construction survey requirements noted in 1.b. above under “Multiple Project Types.”

4. Coral protection

- a. No impacts to seagrass, hard corals, or soft corals shall occur as a result of construction operations, such as, but not limited to, propeller scouring; and vessel or barge anchoring, grounding or spudding, etc. For any impacts caused by the construction activities, restoration and mitigation will be required.¹³⁰ [2]
- b. All operations shall comply with the approved anchoring plan (if applicable). Any anchoring or other bottom impacts outside of the project area will be treated as violations of Florida's Coral Reef Protection Act (Florida Statute Section 403.93345) as appropriate. [7]
- c. The permittee shall ensure that scleractinian (hard) corals of 10 centimeters (cm) or greater and soft corals of 15 cm or greater are transplanted from the areas of direct and secondary impact (i.e. indirect impact) no later than 15 days prior to construction. Corals shall be transplanted in accordance with the ~~enclosed~~ attached and approved coral transplantation plan by a qualified professional. ~~In order to be~~ To be deemed successfully transplanted, the transplanted corals must maintain a survival rate of [INSERT %] of total OR [INSERT %] coverage. Qualifications for all individuals performing transplants will be submitted to the agencies for approval no later than 15 days prior to transplant activities.¹³¹ [2]
- d. The permittee shall submit for approval the names and qualifications of all individuals who will perform any of the sampling, surveying or monitoring activities required to the agencies at least 15 days prior to performing any activity. If [INSERT NAME OF AGENCY] has reason to object to use of any proposed individual or firm, the agency will notify the permittee within 10 days of receipt of the required information and request that permittee use other individuals or contractors. [2]
- e. In the event that the prescribed monitoring plan will impact a living part of the reef, the monitoring plan should look for the most reasonable alternative to avoid impact, and a revised monitoring plan sent to [INSERT ADDRESS] within [INSERT #] days of revision. [7]
- f. In the event that additional mitigation, remediation, and/or monitoring is required as a result of unanticipated impacts identified during monitoring or post-construction surveys, the permittee shall provide a draft mitigation and monitoring plan to [INSERT AGENCY NAME AND CONTACT] for review

¹³⁰ This condition is most effective when used in concert with a pre- and post-construction survey requirement, see 1.b. above and 5.a.below.

¹³¹ This condition is most effective when used in concert with pre-construction survey and post-construction monitoring of the transplantation sites (see 1.b. above and 5.a.below). Also, an approved coral transplantation plan should be a requirement prior to permit issuance.

- within thirty days. Mitigation activities shall be completed within one year of agency approval of the plan.¹³² [2]
- g. The permittee shall immediately alert the **[INSERT AGENCY AND CONTACT NAME]** of any impacts or accidents that may occur. The permittee shall initiate within 24 hours of any incident, the recovery and restoration of any damage to living coral in the event of unforeseen accidents. The permittee shall correct or remove (course of action will be determined by the agencies) any structure that causes damage to coral resources within 10 days in a manner that avoids further damage to the resources. The agencies may participate and assist in this effort. [2]
 - h. Biological Opinion: This Corps permit does not authorize the Permittee to take an endangered species, in particular the **[INSERT SPECIES NAME]**. In order to legally take a listed species, the Permittee must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with “incidental take” provisions with which the Permittee must comply). The enclosed US Fish and Wildlife Service (FWS) Biological Opinion (BO) **[INSERT ATTACHMENT REFERENCE]** contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with “incidental take” that is also specified in the BO. Authorization under this Corps permit is conditional upon compliance with all of the mandatory terms and conditions associated with incidental take of the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where take of the listed species occurs, would constitute an unauthorized take, and it would also constitute noncompliance with this Corps permit. The FWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.
5. Monitoring/Reporting
- a. Within 30 days of completion of the construction, a post-construction survey shall be conducted to determine if there have been any direct or indirect impacts to corals. This survey will be conducted by diver (if water depths are 100 feet or less) submersible/ROV (if depths are greater than 100 feet) and a written report, including pictures and/or video will be submitted to the agencies within 10 days after completion of each survey. [2]
 - b. The permittee shall submit all reports, documentation and correspondence required by the conditions of this permit to the following address: **[INSERT AGENCY NAME, CONTACT PERSON, AND ADDRESS]**. [1]

¹³² This condition should be used in concert with a pre- and post-construction monitoring requirement, see 1.b. above and 5.a.below.

- c. The permittee shall ensure that monitoring activities themselves, as executed, do not cause damage to benthic or other resources. [7]

CABLE/LINEAR/UTILITIES PROJECTS

1. Conditions Related to Weather Conditions During Work
 - a. Cable or pipe deployment shall not take place during high swells or unfavorable weather conditions, including highest peak of hurricane season (mid September to mid October), during severe currents, or any other time when increased damage to corals would be expected to occur. The installation activities shall immediately cease should inclement weather or unexpected severe currents arise during deployment. To avoid the likelihood of the need to stop deployment activities, deployment of cable or pipe shall not be scheduled to occur from September 15 to October 15 as this is the peak of hurricane season. [2]
2. Anchoring/Mooring During Work/Construction

SEE REQUIREMENTS FOR MULTIPLE PROJECTS LISTED ABOVE

3. Operational conditions
 - a. Jet burial of the cable/pipeline [i.e. use of water jets to (re)move seabed material] shall not be used at any time during deployment activities, except in areas of barren sand at least [INSERT # OF FEET] from any benthic resources. [2]
 - b. Large cable/pipe laying vessels shall remain offshore during the deployment of the cable. Only small boats of less than 3 ft draft shall be used for nearshore maneuvers during cable deployment.¹³³ [2]
 - c. The cable/pipeline shall be securely anchored to the seafloor. [2]
4. For Horizontal Directional Drilling (HDD)
 - a. The permittee agrees to perform aquatic toxicity tests for any and all proposed chemical additives that may be used during construction operations (i.e. —horizontal directional drilling) a minimum of 60 days prior to the start of this project. The permittee shall prepare a report with the results of the toxicity tests, the MSDS sheets for each proposed additive, and the proposed concentrations of the additives that will be used. The permittee shall submit the information to the agencies at a minimum of 30 days prior to the start date of construction for the agencies to review and approve the additives to be used. Any additive that is not approved may not be used as part of this project. [2]

¹³³ This condition should be used in concert with a minimum clearance condition as in 1.b. above

- b. The permittee shall implement the following Best Management Practices (BMPs) to minimize the potential for adverse environmental impacts during HDD activities:
 - A. Best management practices for erosion control within the staging area shall be implemented and maintained at all times during construction of the upland entry pit and drilling operations to prevent siltation and turbid discharges in excess of State water quality standards pursuant to Rule 62-302, F.A.C. Methods shall include, but are not limited to, the use of staked hay bales, staked filter cloth, sodding, seeding, and mulching; staged construction; and the installation of turbidity screens around the immediate project site. Dewatering will require a permit from the South Florida Water Management District.
 - B. To provide an additional level of resource protection, the volume of bentonite in the drill string shall be monitored at all times during directional drilling operation. Should a drop in volume of bentonite occur, the following measures will be taken:
 1. Immediately conduct a visual inspection of both terrestrial and subaqueous portions of the HDD corridor. Notify the **[INSERT CORRECT AGENCY NAME, CONTACT PERSON, AND CONTACT INFORMATION]** if a frac-out is detected.
 2. Should the release of drilling materials occur on land, a sediment fence shall be constructed around the site and the material shall be removed by vacuum truck.
 3. Should the release of drilling materials occur, the appropriate actions shall take place in strict accordance with the attached **“[NAME OF FRAC-OUT PLAN]”**.
 - C. In order to minimize the possibility of a bentonite release during punch out, the site project manager shall ~~consider the use of water in place of bentonite during the last 30 to 50 feet of the directional bore unless, due to special circumstances, the permittee secures the written approval of [INSERT AGENCY NAME].~~ The HDD operator shall stop the flow of recirculated bentonite and the borehole shall be flushed with water to remove the bentonite. Once the drill string is clear of bentonite, drilling will continue using only water as the boring medium. ~~The first monitoring report submitted to the Department will discuss if water was used during the final stages of drilling and if not, the reasons why it wasn't feasible. [3]~~
- c. Installation of the **[X]**-inch diameter bore shall be accomplished by horizontal directional drill. Return water shall not be discharged into adjacent surface waters and wetlands and all severed materials shall be temporarily placed in **[X]**-foot by **[X]**-foot (**[X]** ft²) self-contained upland containment pits as shown on the attached drawing, Sheet No. **[X of X]**. The spoil containment pits shall

- be constructed to contain all severed materials and prevent the escape of severed materials and associated effluent into adjacent surface waters and wetlands. [3]
- d. Additives to the bentonite drilling muds shall not be used without the Department's prior approval. If additives are needed, a permit modification will be required. Toxicity evaluations using marine organisms with concentrations of additives representative of those proposed for HDD boring will be required to evaluate the permit modification request. [3]
 - e. PolySwell, Mica Fine, Max Gel, and Max Gel combined with Drillplex, Magma Fiber, and 2PPB Duovis may be added to the bentonite drilling muds to reduce the risk of inadvertent returns. The minimum quantity of (individual) additive necessary for the filling shall be used and the maximum quantity of (individual) additive shall not exceed one-third the (individual) additive EC50 or LC50 data in accordance with Section 62-302.200, F.A.C. The concentrations shall not exceed the cumulative EC50 if multiple products are utilized. Additional additives to the bentonite drilling muds other than those specifically listed above, shall not be used without the Department's prior approval. If additional additives are needed, a permit modification will be required. Toxicity evaluations using marine organisms with concentrations of additives representative of those proposed for HDD boring will be required to evaluate the permit modification request. [3]
 - f. During a threat from a Hurricane, actions shall take place in strict accordance with the attached "[NAME OF PLAN]". [3]
 - g. [If HDD requires splicing or pre-assembled pipestring] The pipeline shall be pre-assembled and stored on uplands adjacent to [LOCATION]. Following the completion of the HDD, the [X]-inch pre-assembled pipestring shall be pulled by a shallow draft barge from uplands located [LOCATION] to the excavated trenches located within [WATERBODY] as shown on the attached Sheet No. [X of X]. A crane equipped with a basket roller will keep the leading end of the pipe elevated above the water level while the pipestring is pulled into the water. The pipestring shall be supported by a roller assembly consisting of rollers positioned at approximately [X-X]-foot intervals, filled with air, capped, and attached to a series of floats, positioned every [X] feet along the pipestring to maintain buoyancy and avoid harm to scouring of the bay bottom and submerged resources. The initial pulling and transport of the pipestring from [LOCATION] into [WATERBODY] is restricted to high tide only, which is defined as one hour before through one hour after high tide, ~~and during daylight hours, which is defined as occurring from 30 minutes before sunrise to 30 minutes after sunset.~~¹³⁴ [3]

¹³⁴ The deleted text referring to daylight hours has been deleted as duplicative of 3.b. under "Multiple Project Types."

- h. During the HDD drilling operations, the permittee shall establish a monitoring corridor no less than 600 feet wide (300 feet on either side of construction) along the portion of the HDD bore in the vicinity of submerged aquatic resources. At a minimum, one SCUBA-equipped environmental inspector shall be in the water swimming routine transects back and forth from the center of the bore hole out to 300 feet on either side, twice a day, no less than 6 hours apart, during drilling in the vicinity of resources. Transects shall be a minimum of every fifty feet and sufficient to cover the entire portion of the corridor that is actively being drilled. Any indications of leaks, such as a drop in the volume of bentonite, shall be verified immediately by SCUBA-equipped inspectors. ~~In the event that night time operations are required, the diver shall complete any additional transect at the end of the shift or if dawn is approaching, as light becomes available. The diver shall be equipped with suitable underwater lights so as to be able to identify any potential frac-outs.~~ The driller's log and divers' monitoring reports shall be faxed daily to the **[INSERT AGENCY NAME, CONTACT PERSON, AND FAX #]**. Include the following statement at the top of each page or as a cover page to the submittal: "This information is being provided in partial fulfillment of the monitoring requirements in Permit No. **[X]**." [3]
- i. Within 12 hours after each HDD punch out, the permittee shall perform a visual inspection of the seafloor above the subaqueous portions of the HDD corridor to inspect for bentonite releases or frac-outs. Within 30 days of each HDD punch out (the Department must be notified immediately if there is a frac-out), the permittee shall submit a written summary to the **[INSERT AGENCY NAME, CONTACT PERSON, AND CONTACT INFORMATION]**. The permittee shall include the following information in the summary:
 - A. A timeline of the individual casing installations.
 - B. Any complications encountered during casing installations.
 - C. Results of the casing corridor dive inspections.
 - D. Details of any bentonite clean-up operation.
 - E. Discussion of possible causes of bentonite discharges (frac-outs).
 - F. Include the following statement at the top of each page or as a cover page to the submittal: "This information is being provided in partial fulfillment of the monitoring requirements in Permit No. **[X]**." [3]
- j. Within 48 hours following completion of the final pipestring transport operation, divers trained in the identification of seagrass shall conduct a post-pipestring transport visual inspection of the seafloor along the pipestring transport corridor as depicted on **[INSERT REFERENCE TO APPROPRIATE ATTACHED DIAGRAM]**. If damage to seagrass occurs from the pipestring transport or associated vessels, divers will immediately flag, take GPS coordinates, and log the depth and date of the impacts. The

permittee shall contact **[INSERT APPROPRIATE AGENCY NAME, INDIVIDUAL CONTACT, ADDRESS, AND TELEPHONE]** to report the initial findings, including whether any impacts occurred. Within 30 days of performing the post-pipestring transport benthic survey, the permittee shall submit a written summary to **[INSERT APPROPRIATE AGENCY NAME, INDIVIDUAL CONTACT, ADDRESS, AND TELEPHONE]**. Failure to submit reports in a timely manner constitutes grounds for revocation of the permit. The permittee shall include the following information in the survey:

- A. Time, date, and environmental conditions of post-pipestring transport benthic survey.
- B. Any complications encountered during pipestring transport operations.
- C. Results of the visual inspection along the pipestring transport corridor.
- D. Details of any observed impacts, including GPS coordinates and photographs.
- E. Discussion of possible causes of any observed impacts.
- F. Contingency mitigation plans to offset any observed resource impacts.
- G. Include the following statement at the top of each page or as a cover page to the submittal: "This information is being provided in partial fulfillment of the monitoring requirements in Permit No. [X]." [3]

5. Monitoring/Reporting

- a. The new cable/pipeline site and anchorage areas shall be monitored immediately following installation and again on a quarterly basis over a one-year period. The cable/pipeline shall be moved off corals and sponges and any fragmented or dislodged corals shall be reattached to the substrate.¹³⁵ [4]
- b. Should monitoring reveal that cable/pipeline movement is resulting in ~~additional~~ damage to corals, additional anchoring shall be added to the cable/pipeline shall be anchored to the substrate in areas where abrasion and breakage are observed. Any fragmented or dislodged corals shall be reattached to the substrate.¹³⁶ [4]
- c. A survey and/or photo documentation of the cable or pipeline anchoring system shall be submitted to the agencies ~~within 15 days following completion of construction~~ as part of the first required monitoring report. [2]

6. Mitigation

¹³⁵ This condition should be used in conjunction with the monitoring requirements listed under #5 for Multiple Project Types, above.

¹³⁶ This condition should be used in conjunction with the monitoring requirements listed under #5 for Multiple Project Types, above.

- a. A detailed mitigation and restoration plan shall be developed in cooperation with **[INSERT NAME OF ISSUING AGENCY]** and **[INSERT NMFS AND/OR FWC]** ~~NMFS~~ should damage to benthic communities resulting from cable or pipeline installation and anchorage of construction or work repair vessels be observed or where monitoring reveals that natural recovery of damaged areas is not occurring. [4]

BEACH FILL/NOURISHMENT PROJECTS

2. Anchoring/Mooring/Transit/Operation

- a. The permittee shall ensure anchor or spud placement locations of the dredge are recorded with a GPS unit for impact evaluation. [5]
- b. At least 15 days prior to construction and utilizing the required benthic sources survey,¹³⁷ the permittee shall provide to the agencies and the dredge contractor, a map identifying approved vessel transit corridors plotted as polygon targets to be used during transit from the borrow areas to the sand pump out facility locations. A hard copy of the map shall be submitted to the agencies and an electronic map in electronic GPS form shall be submitted to the contractor. The electronic GPS form shall be sufficient ~~adequate enough~~ to allow for electronic positioning and to be incorporated with the required continuous tracking system on the dredge vessel. The permittee shall ensure that the selected vessel transit corridors are sand bottom or corridors of low habitat cover (consisting of areas with 10% coverage or less of any submerged aquatic resources). The approved vessel transit corridors shall be ground-truthed to confirm accuracy of vessel paths, to ensure that adequate vessel operating depths will be achieved, and to ensure no natural resources will be impacted. Ground truth reports shall be submitted to the agencies at least 15 days prior to construction.¹³⁸ [2]
- c. The permittee shall conduct a stability analysis for the dredged material pipeline for its entire length. The permittee shall anchor or otherwise stabilize the dredge material pipeline consistent with this analysis and in such a manner as to ensure that the pipeline will remain stable in a 50-year storm event. A copy of the analysis shall be provided to the agencies at least 15 days prior to construction. [2]

3. Turbidity

- a. Turbidity will be monitored once between 6:00 AM and 11:00 AM and again between 2:00 PM and 6:00 PM each day at the borrow site and the fill site.

¹³⁷ This should be required as part of the permit as indicated above by 1.b. under "Multiple Project Types."

¹³⁸ This condition should be used in concert with the buffer zone and pre- and post-construction survey requirements noted in 1.b. above under "Multiple Project Types"

- Turbidity at the borrow site location will be monitored 150 meters up current and clearly outside of any turbidity caused by the work and down current not more than 150 meters from the dredge location and in the densest part of any visible turbidity plume; turbidity at this site shall ~~and will~~ not exceed background conditions. If turbidity exceeds background conditions dredging activities will cease until turbidity has settled. Turbidity at the nourishment site will be monitored 10 meters offshore and 150 meters down current from the point of discharge. Turbidity will not exceed **[INSERT APPROPRIATE NUMBER; ORIGINAL STATED “29” BUT THE MOST PROTECTIVE PERMITS REVIEWED USED A LOWER THRESHOLD OF ONLY 15]** Nephelometric Turbidity Units (NTU). If turbidity levels exceed **[INSERT CORRECT NUMBER]** NTU, nourishment activities will cease until levels return to background values. [5]
- b. The Contractor shall conduct his operations in a manner to minimize turbidity and shall conform to all water quality standards as prescribed by Chapter 62-302, State of Florida, Department of Environmental Protection (FDEP). FDEP surface water quality standards can be obtained from the following web sites:
<http://www.dep.state.fl.us/ogc/documents/rules/shared/62-302.pdf> &
<http://www.dep.state.fl.us/ogc/documents/rules/shared/62.302t.pdf>. [the Puerto Rico Water Quality Standards Regulation of the Puerto Rico Environmental Quality Board.] The Contractor shall conduct his operations in a manner to minimize turbidity. [6]
4. Sand
- a. Fill material placed on the beach shall be sand that is similar to that already existing at the beach site in both coloration and grain size. All such fill material shall be free of construction debris, rocks, or other foreign matter and shall not contain, on average greater than 10 percent fines (i.e. silt and clay) passing a Number 200 sieve and shall not contain, on average, greater than 5 percent coarse gravel or cobbles exclusive of shell material retained by a Number 4 sieve. Suitability analysis will be submitted to the agencies for approval at least 30 days prior to construction. [2]
5. As-built certification
- a. Within 60 days of completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, the permittee shall submit as-built drawings of the authorized work and a completed As-Built Certification Form (Attachment 4) to the **[INSERT AGENCY, CONTACT PERSON, ADDRESS, AND TELEPHONE]**. The drawings shall be signed and sealed by a registered professional engineer and include the following:
- i. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as

constructed in the same scale as the attached permit drawings. The drawing should show all “earth disturbance,” including any aquatic resource impacts, water management structures, and any on-site mitigation areas.

- ii. List any deviations between the work authorized by this permit and the work as constructed. In the event that the work deviates, in any manner, from the authorized work, describe on the As-Built Certification Form the deviations between the work authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings any deviations that have been listed. Please note that the depiction or description of any deviations on the drawings or As-Built Certification Form does not constitute approval of any deviations by **[INSERT NAME OF AGENCY]**.
- iii. The Permit number for the **[INSERT NAME OF AGENCY]** permit.
- iv. Include pre- and post-construction aerial photographs of the project site, if available. [5]

6. Coral Protections

- a. Existing hardground or reef areas within the Contractor's work area will be so designated on the contract drawings and precaution will be taken to preserve these resources as they existed prior to construction. The Contractor shall install all protection for these resources so designated on the drawings and shall be responsible for their preservation during this contract. Pipelines will be placed only in approved areas and anchoring will be permitted in sandy areas only. Pipeline will be monitored for leaks. Any leaks that develop shall be repaired immediately, especially over hardgrounds/reefs, and the pumpout operations shall be shutdown until repairs are completed. [6]

7. Monitoring

- a. The permittee shall establish nearshore monitoring stations/cross-shore permanent transects, extending [X #] of feet seaward of the equilibrium toe of fill (ETOF) a minimum of 30 days prior to construction, to monitor and identify potential effects from sediment and turbidity movement, and stress indicators, on scleractinian (stony) and soft coral species, on adjacent, deeper, and stable nearshore hardbottom communities. The permittee shall conduct surveys of nearshore hardbottom resources, fish populations and epibenthos monitoring sites, and depth of sediment, immediately prior to construction (this will be compared to baseline data to get information on natural variability), and annually for [X #] of years after construction, in accordance with the attached approved Construction/Post-Construction Nearshore

- Biological Monitoring Tasks. Reports will be submitted to the agencies within 30 days of completion of each monitoring event.¹³⁹ [2]
- b. Water Quality Monitoring (Turbidity) Turbidity monitoring in the vicinity of the borrow areas and the beach nourishment sites shall be monitored during construction.
- Turbidity will be measured at background and compliance stations at the surface, mid-depth and 1 m above the bottom utilizing high resolution sensors which will give continuous data throughout the project. (More information on available sensors can be found at http://www.act-us.info/evaluation_reports.php)
 - Background measurements will be taken least 300 meters upcurrent from the dredge site, clearly outside of any turbidity generated by the project.
 - Compliance measurements will be taken no more than 150 meters downcurrent from the dredge site, within the densest portion of any visible turbidity plume.
 - Beach Nourishment and/or Groin Construction Sites measurements will be taken including a background measurement approximately 150 meters offshore and 300 meters upcurrent from the discharge point, clearly outside of any turbidity generated by the project and a compliance measurement approximately 150 meters offshore and no more than 150 meters downcurrent from the discharge point, within the densest portion of any visible turbidity plume.
 - Weekly summaries of all monitoring data shall be submitted to the agencies within one week of collection.
 - The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the compliance sites are greater than [INSERT APPROPRIATE NUMBER] NTU's above the associated background turbidity levels, the agencies shall be notified and construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels.¹⁴⁰ [2]
- c. The applicant will provide underwater monitoring and video documentation of adjacent hardbottom resources, along the pipeline corridor, immediately prior to, and following, pipeline placement, and within 30 days of pipeline removal, in order to verify avoidance of impacts to any adjacent hardbottom

¹³⁹ This condition requires a Biological Monitoring Protocol to be submitted and approved prior to permit issuance

¹⁴⁰ This condition is to be used for shoreline stabilization projects including beach renourishments and groin installations. A similar condition tailored for dredging only projects is located in the section on dredging.

resources. The monitoring shall record the following information: (a) general silt and sediment levels on the reefs, (b) notes on any adverse effects which may result from sedimentation such as mucous formation on corals and sponges, bleaching and mottling, morbidity etc. in accordance with the attached approved monitoring protocol.¹⁴¹ [2]

DREDGING OPERATIONS

1. Information/recording and operational requirements
 - a. During construction activity, best available navigational and positioning equipment will be used which will sound an alarm notifying the dredge operator that the dredge is approaching a hardbottom location. [2]
 - b. Recording Charts for Hopper Dredge(s): All hopper dredge(s) shall be equipped with recording devices for each drag head that captures, in real time, drag head elevation, slurry density, and at least two of the following:

Pump(s) slurry velocity measured at the output side, pump(s) vacuum, and/or pump(s) RPM. The Contractor shall record continuous real time positioning of the dredge, by plot or electronic means, during the entire dredging cycle including dredging area and disposal area. Dredge location accuracy shall meet the requirements of the latest version of COE EM 1110-1-1003. A copy of the EM can be downloaded from the following web site: <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em.htm>. The recording system shall be capable of capturing data at variable intervals but with a frequency of not less than every 60 seconds. All data shall be time correlated to a 24 hour clock and the recording system shall include a method of daily evaluation of the data collected. Data shall be furnished to the Contracting Officer for each day's operation on a daily basis. A written plan of the method the Contractor intends to use in order to satisfy these requirements shall be included with the Contractor's Quality Control Plan. [6]
 - c. The permittee shall ensure that the contractor daily inspects the hopper dredge for any leaks or failures. The permittee will ensure that the contractor uses signal devices or alarm devices on all vessels associated with this project to ensure that leaks from the split hull mechanism do not occur. The permittee must ensure that the contractor is operating the hopper dredge in a manner that the split hull mechanism is closed completely at all times before leaving the borrow sites. There shall be no random deposits of dredge material over natural resources.¹⁴² [2]

¹⁴¹ Proper use of this condition includes a pre-approved monitoring protocol prior to permit issuance.

¹⁴² This condition should be used in concert with a pre- and post-construction monitoring requirement as well as remediation in case of impacts

- d. All operations including the arm of the hopper dredge, etc., shall be conducted in a manner to eliminate the possibility of equipment dragging on the bottom and damaging natural resources. Before the dredge leaves any/all borrow areas, the drag-arm (hopper arm) must be completely raised out of the water at all times during transit. The permittee must provide, within 30 days prior to construction, a plan that will address what methods or preventions will be taken to avoid any operational failures. If operational failures of the drag-arm occur, the permittee shall immediately notify the agencies and work shall immediately cease until the cause of failure has been corrected.¹⁴³ [2]
- e. ~~The permittee shall require the dredging contractor to push his equipment into the project area versus towing when within 1.5 miles of the shoreline to avoid potential cable drags.~~¹⁴⁴ During all dredging operations, the permittee shall require the dredging contractor to have electronic positioning equipment that continuously measures the vertical and horizontal location of the cutterhead at all times during construction operation. The equipment shall monitor the actual location of the dredge equipment and be interfaced with the depth-monitoring device. This equipment shall provide a permanent record of the position referenced to State Plane Coordinates and NAVD 88. A final report shall be submitted to the agencies within 15 days following completion of construction. As part of the final project report, the permittee shall provide a daily record of the position of the dredge equipment, which includes the dredge area limits and the buffer zone with actual and maximum authorized dredge depths referenced to State Plane Coordinates and NAVD 88, including complete metadata. Vertical and horizontal accuracy of the positioning equipment shall also be reported.¹⁴⁵ [2]
- f. One week prior to the commencement of construction, the permittee (or authorized agent) and the contractor shall provide Material Safety Data Sheets and toxicity testing results for the polymers proposed to be used to drop the solids out of the dredged spoil material. This information shall be sent and approved by **[INSERT AGENCY NAME, CONTACT PERSON, ADDRESS, TELEPHONE, AND E-MAIL]**. [3]
- g. The floating pipeline used to transport the dredged material to **[INSERT NAME OF SITE]** shall be inspected twice daily by the selected contractor in order to ensure there are no leaks discharging material into surface waters of the State. At the first sign of any leaks, the permittee shall immediately

¹⁴³ This condition should be used in concert with a pre- and post-construction surveys as well as remediation requirement in the event that damage of resources occurs

¹⁴⁴ Stricken language was deleted because special condition 3.d. under "Multiple Project Types" addresses the potential for cable drag.

¹⁴⁵ This condition should be used in concert with a buffer zone requirement.

- contact the Department and cease all operations until repairs have been made. [3]
2. Coral Protections
 - a. A **[X # OF FEET (recommend 1000 foot buffer, 400 foot minimum)]** buffer zone in which dredging and anchoring is prohibited shall be maintained around the adjacent hardbottom areas in the vicinity of the borrow site(s). The permittee shall ensure that the buffer zones are maintained continuously for as long as dredging occurs at the borrow site(s).¹⁴⁶ [2]
 3. Monitoring
 - a. The permittee shall monitor the offshore hardbottom habitat, located adjacent to the borrow sites, for sedimentation, generated by the dredging operations. Amount and duration of sedimentation will be monitored, as well as stress indicators of stony and soft corals affected by the dredge operations, at designated monitoring stations located adjacent to each borrow area.
 - The stations shall be monitored once per day, beginning **[X #]** of weeks prior to construction, during construction, and **[X #]** of weeks following construction in accordance with the attached approved Construction/Post-Construction Nearshore Biological Monitoring Tasks. In the event that inclement weather prevents monitoring, construction shall also cease for that time period and the event shall be recorded in the monitoring report.
 - Construction activities shall cease and the agencies shall immediately be notified if sediment exceeds defined standards (more than 1.5 mm per day). If coral stress indicators exceed defined values, then histological tissue analysis of affected corals will be conducted.
 - A minimum of **[X #]** of days prior to construction, stress indicators and coral stress index values must be established to monitor the viability of the coral habitat during construction. To avoid damage of submerged aquatic habitat, coral stress thresholds shall be developed.
 - All reports shall be submitted to the **[INSERT NAME OF AGENCY, CONTACT PERSON, ADDRESS, AND TELEPHONE]** within 30 days following completion of the monitoring event.¹⁴⁷ [2]
 - b. Water Quality Monitoring (Turbidity) Turbidity monitoring in the vicinity of the dredging areas shall be monitored during construction.
 - Turbidity will be measured at background and compliance stations at the surface, mid-depth and 1 meter above the bottom utilizing high

¹⁴⁶ This buffer zone should be the same as the buffer zone referred to under #1.b. under "Multiple Project Types." This condition should be used in concert with pre- and post-construction monitoring requirements, especially if buffer is less than 1000 feet

¹⁴⁷ This condition requires submittal of an approved Biological Monitoring Protocol prior to permit issuance.

resolution sensors which will give continuous data throughout the project.

- Background measurements will be taken least 300 meters upcurrent from the dredge site, clearly outside of any turbidity generated by the project.
- Compliance measurements will be taken no more than 150 meters downcurrent from the dredge site, within the densest portion of any visible turbidity plume.
- Weekly summaries of all monitoring data shall be submitted to the agencies within one week of collection.
- The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the compliance sites are greater than **[INSERT APPROPRIATE NUMBER]** NTU's above the associated background turbidity levels, the permittee will immediately notify the agencies and construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels.¹⁴⁸ [2]

ARTIFICIAL REEF PROJECTS

1. Agency Notification Prior to Work:

- a. The permittee shall provide written notification to **[INSERT NAME OF AGENCY, CONTACT PERSON, ADDRESS, AND TELEPHONE]** of the planned deployment start date at least two weeks prior to the initial deployment on the authorized artificial reef site. [1]
- b. Pre-Deployment Notification: No less than 14 days prior to deployment of material on an artificial reef, the permittee shall transmit by electronic mail ("email") a complete and signed "Florida Artificial Reef Materials Cargo Manifest and Pre- Deployment Notification" form, provided in Attachment of this permit, to the USACE and FWC to allow inspection of the proposed reef materials as deemed necessary by the agencies. Inspection is allowable at the staging area. By signing the Pre-Deployment Notification the permittee certifies that all materials are free from asphalt, petroleum, other hydrocarbons and toxic residues. The permittee shall not deploy material if notified by the USACE or FWC that the material is questionable. The material needs to be evaluated and released for deployment. Any material that is deemed unacceptable for reef material will be disposed in an approved

¹⁴⁸ This condition is to be used for dredging projects. A similar condition is listed in the section on beach nourishment.

- upland disposal site. Deployment of the material shall not occur until after the end of the 14-day inspection period. The permittee shall ensure both a copy of the USACE permit and the signed "Florida Artificial Reef Materials Cargo Manifest and Pre-Deployment Notification form" are maintained aboard the deployment vessel at all times during loading, transit, and deployment. [1]
- c. By signing this permit, the permittee certifies and acknowledges ownership of all artificial reef materials deployed on the reef, accepts responsibility for maintenance of the artificial reef, and possesses the ability to assume liability for all damages that may arise with respect to the artificial reef. [2]
2. Operational/Design
- a. All structures will be constructed in accordance with the attached approved engineering report which provides reasonable assurance that the structure will be stable through a 20 yr storm event. A sediment depth survey shall be conducted immediately prior to construction to ensure that the artificial reefs are placed in areas with underlying rock (for stability) and a persistent cover of sand.¹⁴⁹ [2]
 - b. The permittee shall deploy only the following authorized reef materials:
 - Prefabricated artificial reef modules composed of steel, concrete, rock or a combination of these materials.
 - Natural rock boulders and other pre-cast material, such as, culverts (inside diameter no less than 36 inches, no more than 48 inches), stormwater junction boxes, power poles (concrete or wood, not treated with creosote).
 - Clean steel and concrete bridge demolition materials such as slabs or pilings with all steel reinforcement rods severed as close to the concrete surface as possible but not to extend more than 6 inches to ensure the rod will not create a fishing tackle or diver ensnaring hazard.
 - Heavy gauge steel components or structures, ½" or more in thickness. Properly prepared, clean steel vessels.
 - Reef materials shall be clean and free from asphalt, petroleum, other hydrocarbons and toxic residues, loose free floating material or other deleterious substances. All artificial reef materials and/or structures will be selected, designed, constructed and deployed to create effective, stable and durable reef habitat. [2]
 - c. The permittee shall deploy all reef materials within the site boundaries as defined on the enclosed permit drawings. A minimum clearance of twice the height of the structure from the top of the deployed material relative to Mean

¹⁴⁹ This condition requires an approved engineering report prior to permit issuance.

- Lower Low Water (MLLW) shall be maintained at all times. Clearance shall never be less than 6-feet. [2]
- d. Any steel hull vessel which will be used as reef material shall be prepared and deployed in accordance with all applicable U. S. Coast Guard, U.S. Environmental Protection Agency, Florida Fish and Wildlife Conservation Commission, or other applicable state or federal agency regulations or policies. The vessel shall not be deployed until all necessary inspections and clearances have been obtained or waived and a stability analysis has been completed based on vessel and deployment site characteristics. The permittee shall submit the certifications and/or waivers to the agencies a minimum of 15 days prior to construction. National guidance regarding preparation of vessels for deployment as artificial reefs may be viewed at: <http://www.epa.gov/owow/oceans/habitat/artificialreefs/documents/0605finalreefguidance.pdf>. [2]
 - e. Within [X #] of months the permittee shall create [X #] of acres of artificial reef in [X #] of feet of water depths at the specified location in accordance with the attached permit drawing [# of X]. In order to be successful the mitigation reef must achieve [X] amount of lift (determined through Uniform Mitigation Assessment Method (UMAM)) within [X] amount of time. If artificial reef construction is not completed and deemed successful within the specified time period, a time lag coefficient shall be applied to increase the mitigation ratio.¹⁵⁰ [2]
 - f. The artificial reef materials must be placed in shore parallel formations, which mimic the natural hardbottom found in the project area. [2]
 - g. No fish attraction devices may be constructed or attached to the permitted artificial reefs or within the site boundaries. [2]
 - h. Within 12 months from the effective date of this permit and annually thereafter until expiration of the deployment authorization, the permittee shall submit to the agencies a spreadsheet listing the deployments that occurred within the previous 12 months and a written report which summarizes, analyzes, and draws conclusions regarding the activities or issues associated with the artificial reef locations in the past 12 months. For each deployment, the spreadsheet shall include:
 - The local tracking number
 - Date deployed
 - Latitude and longitude
 - Description and quantity of the material deployed
 - Depth of water above material

¹⁵⁰ This condition should be used in concert with a monitoring requirement. All parameters of the artificial reef should approximate the conditions of the impacted reef as closely as possible to ensure replacement of ecosystem functions and values

- Approximate area of seafloor covered
 - Results of any performance monitoring (description of fish and other biota observed)
 - Any known changes in material condition (stability, durability, and location) [2]
- i. The use of explosives shall be limited to controlled burning for the purpose of creating holes in the bulkheads of the vessel, and small charges in order to create holes of about 8-inches below the water line. Use of these explosives will be limited to the interior of the vessel.¹⁵¹ [2]
 - j. The precise planned position for the sinking of vessels shall be surveyed prior to the sinking and at least 2 marker buoys, firmly attached to the bottom, will be established to mark the forward extent and the aft extent of the vessel position. To as great an extent possible, the vessel shall be scuttled between these 2 buoys during favorable current, wind and sea conditions. The survey shall be submitted to the agencies a minimum of 15 days prior to deployment.¹⁵² [2]
3. Protection of Existing Resources:
 - a. The permittee agrees that all deployed artificial reef material will maintain at least [X #] of feet [**RECOMMEND A MINIMUM OF 200 FEET**] buffer from any existing hardbottom.¹⁵³ [2]
 4. Post-Construction
 - a. Post-Deployment Placement Report/As-Built Drawing: No less than 30 days after deployment at the reef site, the Permittee shall transmit by email to the USACE and FWC a complete and signed "Florida Artificial Reef Materials Placement Report and Post- Deployment Notification" form provided in Attachment [**INSERT ATTACHMENT #**] of this permit. Please note, the USACE requires the latitude and longitude to be accurate within 5 meters horizontal distance on the post deployment report. Attached to the report, an as-built drawing that contains the approximate deployment configurations and the height of the material after placement. Depth shall be verified utilizing fathometer, depth sounder, or similar device accurate to within 1 meter. Also, include information on the condition of the material at the time of deployment. The report and drawing shall be limited to a few pages per deployment. Representative photographs and/or video, if available, are encouraged to be submitted. [1]

¹⁵¹ This condition is to be used for deployment of vessels as an artificial reef.

¹⁵² This condition is to be used for deployment of vessels as an artificial reef. This condition should be used in concert with a pre and post-deployment survey as well as a buffer zone and remediation requirement should any damage to existing resources occur.

¹⁵³ This condition should be used in concert with a pre-construction survey to document location of existing hardbottom.

- b. In addition to the agencies listed under the agency contact list, the permittee shall also notify the National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, Rockville, Maryland, and the Department of Environmental Protection, Division of Marine Resources, Office of Fisheries Management and Assistance Services of the precise location of the reef within 30 days of placement of the reef material. [2]

PORT MAINTENANCE AND EXPANSION

1. The permittee shall establish ingress/egress corridors which avoid submerged aquatic resources and vessel exclusion zones within [X #] of feet (recommend a minimum of 400 feet) of any hardbottom resources. The project plans and specifications shall clearly delineate the operation and exclusion zones, and the permittee shall provide a copy to the agencies a minimum of thirty (30) days prior to commencement of transport or disposal of spoil material.¹⁵⁴ [2]
2. The permittee shall perform pre-project surveys which may include multi-beam bathymetry, side scan sonar, diver reconnaissance, remotely operated vehicle investigations, and photographic and video documentation, of all hardbottom areas adjacent to the ingress/egress corridors and the Ocean Dredged Material Disposal Site (ODMDS) to confirm the presence or absence of deepwater aquatic resources. The assessments shall include quantitative and qualitative descriptions of benthic resources throughout the disposal route and adjacent to the disposal site. If the surveys document any direct or indirect impacts of the transport and disposal project have occurred remediation will be required. The pre-project surveys shall be submitted to the agencies 30 days prior to project commencement. The post-construction survey shall be submitted within 30 days following project completion. The surveys shall be conducted in accordance with the enclosed approved survey and monitoring plan.¹⁵⁵ [2]
3. Blasting is prohibited. [2]

COMMERCIAL DOCKS AND MARINAS

1. The permittee shall clearly mark and buoy the exact location of the navigation routes, including approaches to the dock. The navigation routes shall be marked a minimum of 15 days prior to the commencement of the construction activities authorized by this permit. The permittee shall submit survey and photo

¹⁵⁴ This condition should be used in concert with a pre- and post-construction survey.

¹⁵⁵ Proper use of this condition requires that a survey and monitoring plan be approved prior to permit issuance.

documentation of the marked channel to the agencies at least 7 days prior to the commencement of the installation activities.¹⁵⁶ [2]

2. All piles shall be installed using pile-driving techniques. High speed jetting is not an approved method of pile installation. [2]
3. The docks shall be constructed to fully adhere to all construction specifications found within the Dock Construction Guidelines. (The guidelines can be found at http://www.saj.usace.army.mil/Divisions/Regulatory/DOCS/other/DockGuidelines2008_Revised.pdf. [2]
4. All new pilings used in the construction of the dock shall be concrete. [3]
5. The Lessee shall provide and make available to all vessels utilizing the docking facility operational and well maintained sewage pumpout facilities acceptable to the State of Florida Department of Environmental Protection or local government, whichever entity applies the more stringent criteria. All sewage pump-out devices shall be connected to an authorized sewage treatment system. The permittee shall ensure that personnel, who have been trained to operate the sewage pump-out facilities, are available to assist boaters in operating the facilities during standard business hours (at a minimum) for the life of the facility. The sewage pump-out facility shall be in working order prior to any slip occupancy and be maintained in accordance with the requirements of this condition for the life of the facility. [3]
6. Sewage pump-out facilities shall be installed at the locations shown on the attached permit drawing, Sheet No. [X of X]. All sewage pump-out devices shall be connected to an authorized sewage treatment system. The permittee shall ensure that personnel, who have been trained to operate the sewage pump-out facilities, are available to assist boaters in operating the facilities during standard business hours (at a minimum) for the life of the facility. The sewage pump-out facility shall be in working order prior to any slip occupancy and be maintained in accordance with the requirements of this condition for the life of the facility. [3]
7. Fueling facilities shall be installed only at locations shown on the attached permit drawing, Sheet No. [X of X]. The fuel spill contingency plan included as "Attachment A" shall govern the operation of fueling facilities and the procedures to be followed in the event of a spill. The Department shall be notified whenever the clean up company changes and shall be provided with the name, address, and telephone number of the new company within 14 days of the change being made. The recommended fuel spill response equipment referenced in Attachment A shall be stored at the site throughout the life of the facility. The fuel spill response equipment shall be maintained in working condition and replaced as necessary for

¹⁵⁶ This condition should be used in concert with a pre-construction survey to ensure no resources within the proposed channel as well as the specified buffer zone are harmed. In addition, it should also be used with a condition requiring sufficient depth clearance for any vessel associated with construction or use of the facility.

the life of the facility. The fuel spill contingency plan and requirements for its implementation shall be adhered to for the life of the facility. [2]

VII. Awareness Training

VII.A Introduction

There are diverse needs for training to increase C & E efficiency for sustainable management of coastal construction impacts on corals. In developing the project-mandated awareness training materials for southeast Florida agency staff associated with permitting compliance and enforcement, we focused on obvious needs (e.g., informing new hires) and also application of the recommendations from this project that are most relevant to training personnel.

A modular package of awareness training materials was produced for use within or among agencies to improve effectiveness in both office and field-based venues. Collectively titled *Awareness Training for Compliance and Enforcement of Coral and Hardbottom Resource Permitting* (*Awareness Training* for short), the materials are based on three PowerPoint units that can be administered in an individual or group-based learning environment. The complete array of materials consists of the following:

- Unit 1: Overview of Corals and Hardbottom Resources in Southeast Florida
- Unit 2: Rules and Regulations Involving Corals in Southeast Florida
- Unit 3: Permitting and Field Approaches for Efficient Compliance and Enforcement

The units currently consist of 72, 39, and 88 slides, respectively. These materials are supplemented by this Final Report (in paper and CD form), PDF versions of many of the core documents (on the same CD), and water-proof Reef Resource Reference cards key agency administrative rules and coral biology. These materials will be delivered collectively within a binder tabbed for each section. The binder will include all materials in CD form.

For primarily desk and office permitting staff, the training program focuses on: 1) minimum knowledge of key rules and principles of efficient interagency permit coordination; and 2) introductory knowledge of ecosystem based management (for desk permitting and field staff), and 3) introductory knowledge of on-site field assessment biology. For primarily field and on-site staff, the training focuses on: 1) primary coral field rules, 2) introductory knowledge of ecosystem based management, and 3) introductory knowledge of field assessment biology on-site. The water-proof reef resource reference cards have information on coral identification, rules that apply to coral impacts, and field situational protocol also under development to assist field personnel.

There are also questions among scientific researchers about coral regulations; these are addressed for C & E personnel in the powerpoint units. Most, but not all, scientific

research permits go to FWC at the state level because the research activity usually falls under the *de minimis* exemption for the ERP (L. Gregg, pers. comm.).

VII.B Distribution of Awareness Training Materials

The awareness training materials will be sent to agency points of contact and distributed to other offices as identified in early 2011. Agencies are encouraged to refine these materials through time to optimize effectiveness in staff permitting, and C & E training. Assessment questions are included on the final slide of each file to assist those processes. Supervisory personnel should be involved at intervals to answer questions and to assist the development of improved training and agency coordination protocols.

FDEP's Southeast District (SED) ERP staff in West Palm Beach assist BBCS staff in Tallahassee with field compliance issues. However, in both of the public meetings there was an emphasis on moving materials between agencies in more efficient manners. Periodic training *among agencies* would foster new paths to move primary documents in more efficient manners. Semi-annual training at least within agencies can be of value. Before funding became highly restrained, FDEP SED used to have annual C & E training in the Tampa area.

A preliminary breakdown of training opportunities is provided in Table 4. As an example, the FDEP SED has 8 C & E staff and also 12 permitting staff. Training would certainly be indicated for the former, with potential value to some of the latter as well. FDEP and USACE ideally would have several offices and programs that coordinate on training activities to increase efficiency. These ancestral training materials have the potential to evolve into valuable intra- and inter-agency permitting and C& E tools as a function of office-specific customization through time.

Table 4. Potential agency and office distribution of training opportunities for coral permitting compliance and enforcement awareness.

Agency & Office	# of Desk Trainees	# of Field Trainees	Point of Contact
FDEP			
ERP, SED, WPB	20	15	J. Andreotta, SED ERP
BBCS, Tall.	10	7	S. MacLeod, BBCS
SLER, Tall.	2	2	D. Kendall, SLER
FL Park Serv SE District 5	2-3	2-3	J. Raily, FPS

USACE			
Palm Bch. Gardens Office	8	4	L. Knoeck/J. Rivera, USACE
Miami Reg. Office	1-2	1-2	Robert Kirby, USACE
NMFS (= NOAA Fisheries)			
Habitat Conservation staff	2-3	2-3	J. Karazsia, NMFS
Protected Resources staff	2	2	Audra Livergood, NMFS
FWC			
Div. of Mar. Fish Manag.	5	5	L. Gregg, FWC
Local Governments			
Miami-Dade DERM	2	2	S. Blair, DERM
Broward EPGMD	3	3	L. Sutherland, EPGMD

VIII. Recommendations

The SEFCRI MICCI Combined Project 4, 21, 23, 24 has examined many regulatory aspects of local, state, and federal permitting in regards to corals with a focus on compliance and enforcement (C & E). The findings from Phase 2 resulted in some themes that were consistently relevant to many of the following recommendations. One such theme for all agencies was the benefits of increased interagency cooperation. For example, FDEP and USACE concurred in the West Palm Beach meeting (Feb. 1, 2010) that both would benefit by establishing an on-going dialogue to improve interagency understanding and cooperation. Areas to coordinate included a process for establishing rapid lines of communication between permit processors at each agency working on the same permit, more efficient routing of paperwork among agencies, possibilities for cooperation in monitoring, the respective regulations of each agency, potential establishment of informal, interagency criteria for “team permitting,” etc. Similar comments were made at the Feb. 9 public meeting in Tallahassee among staff from differing FDEP and FWC offices.

Another consistent theme involved limitations imposed by high workloads and limited financial resources at all agencies. These constraints may limit increased interagency cooperation, which can lead to decreased monitoring as well as C & E. The West Palm Beach and Tallahassee meetings produced substantial information and contributed various internal insights to our recommendations. The records of these public meetings are available as Appendices 7 and 8.

Development of specific coral reef and hardbottom related templates for special conditions also emerged as a significant theme. All segments of FDEP and USACE interviewed as part of this project are now engaged in development of template special

conditions as part of an effort to ensure that special conditions are clearly written, appropriately protective of resources, implementable and enforceable. Thorough coordination of the various templates from different agencies would simplify permitting and make permits more comprehensible to permittees as well as avoid conflicts between permits; these latter two actions can be expected to lead to greater compliance by permittees. Per earlier discussion, a process to develop optimized special permit conditions was conducted using Appendices 4 and 5, resulting in the final template special condition recommendations included above in section VI. The use and continued improvement of these conditions can add clarity and consistency to coral and hardbottom resource conservation activities.

Whether involving administrative protocols, performance accounting, supply chains, or a dozen other categories, many major industry and government systems that pursue optimization establish *best management practices* (BMPs) and attempt to meet them. Methods to formally pursue and measure attainment of BMP goals are numerous and include quality control (QC), quality assurance (QA) and other well-documented tools, some at major scales (e.g., ISO 9000). Given the political, spatial, and temporal complexity of multi-agency permitting endeavors that involve challenged environmental resources, the adoption of standardized, moderately ambitious, and measurable BMPs within permitting agencies is highly warranted.

Given the relatively unique attributes of many permitting systems, we suggest that best management protocols within administrative permitting arenas could be captured in the phrase *best permitting practices* (BPPs). Importantly, optimizing the front end of an applicant's project (the permitting process) will reduce the need for C & E actions on the back end. The following large array of hierarchical recommendations derives from best practice concepts. Once started, perhaps through an office-specific BPP program to implement specific permit process modifications, other steps can fall into place easier. Ultimately, the QC of both the front end permitting and back end C & E can improve, perhaps synergistically.

Summary recommendations include the following bullets; more specific mechanisms to achieve these recommendations are present within subsequent sections.

- Increase compliance with permit conditions at all levels by making permits as clear, concise, and consistent among agencies as reasonably possible;
- Form an interagency task force to enhance coordination, in part by developing template special conditions for each agency, standardizing templates when feasible, and ensuring all agencies know of changes to templates used by cooperating agencies;
- Enact recommendations below to increase interagency coordination on C & E, particularly among USACE and NMFS;

- Develop interagency standards for a suite of acceptable methods, materials, monitoring standards, and reporting requirements for activities such as coral transplantation, artificial reef construction, and others;
- Cooperatively promote adoption of administrative penalties authority for USACE to enforce permits issued under section 10 of the Rivers and Harbors Act and evaluate potential for increased jurisdictional reach of section 404 of the Clean Water Act beyond three nautical miles. Both of these actions would address a dearth of effective protection for coral resources in southeast Florida beyond three nautical miles from shore.

VIII.A General Recommendations (numbers do not imply priority)

1. Formation of an interagency task force to discuss the respective databases of standard special permit conditions used by each agency;
 - a. This would ideally lead to agreement on the basic outline of some special conditions related to turbidity, monitoring protocols; buffer areas; and potentially other issues, as appropriate;
 - b. Ensure specific individuals are identified as agency points of contact to ensure feedback and discussion since template special conditions cannot be static due to steep learning curve;
2. Development of guidelines for increased use of neutral, certified, and qualified independent third parties for certain monitoring activities (independent monitors are already required for potential sea turtle impacts);¹⁵⁷
3. Increase field visits by USACE, FDEP, and NMFS staff, especially joint field visits of FDEP and USACE with NMFS as this increases professional interaction and ties;
4. Develop, per the model used in the Caribbean and Puerto Rico, an open, monthly meeting for prospective permit applicants where they can simultaneously discuss project ideas with EPA, NMFS, USACE, FDEP's agencies (SED ERP, office of submerged lands, CCCL, and JCP), and local governments in a single forum;
5. Demonstrate greater supervisory-level support for increased interagency cooperation on C & E through creation and distribution of agency protocols for permitting and C & E staff that include discussion of interagency cooperation. Such discussion should include when interagency cooperation is appropriate,

¹⁵⁷ Since agency budgets will typically not support paying for such services. It is recommended that the onus of such monitoring be placed on the permit applicant. This is not without precedent or support. For example, the Federal Government will pay expenses for inspection of permitted activities except where "daily supervision or other unusual expenses are involved." 33 C.F.R. 326.4(c). If unusual inspection expenses are involved, USACE permits may be conditioned on payment of inspection expenses by the permittee.

- what information should be shared, routing procedures, and appropriate contacts at each agency;
6. Increasing institutionalization of informal coordination networks already in place between agencies; while it is clear that legally formalizing coordination may not be needed, possible, or feasible, institutionalizing informal networks within the position descriptions at each agency and in the process manuals of agencies can aid in such coordination not suffering during staff turnover;
 7. Increase cooperation of USACE and NMFS to take advantage of NMFS' field work to assess the effectiveness of NMFS' conservation recommendations; this would include USACE making clear to NMFS what types of evidence might constitute a permit violation for the standardized special permit conditions recommended by NMFS; feasibility of implementing this recommendation is highly dependent upon increasing capacity of NMFS to engage in compliance checks, especially in areas where corals might be impacted, since current NMFS staffing and resources allow almost no compliance monitoring;
 8. Establish agency-specific internal guidance on projects that merit inclusion of some amount of electronic turbidity monitors based on an array of factors that might include variables such as likelihood of excessive turbidity, proximity of coral or other sensitive marine resources to likely turbidity sources, applicant history of compliance or non-compliance, project uncertainty or complexity, ability of the agency to monitor turbidity, and other factors as appropriate;
 9. Develop the best possible maps of coral locations so that these are available for immediate consultation during the push to move quickly after a storm (most likely only possible further off shore as nearshore system in some areas may be too dynamic to make maps reliable);
 10. For each agency involved, investigate feasibility of criteria for when to require an independent, third party to conduct monitoring or inspection activities; discuss structural design to maintain third party independence;
 11. Ensure that projects involving mitigation are required to include the detailed mitigation plan as part of the permit application rather than requiring that the plan only be submitted as a permit condition after the permit is issued;
 12. Require that permits involving mitigation are required to implement and demonstrate a measured level of mitigation success prior to allowing project impacts;
 13. Standardize acceptable techniques, monitoring and reporting requirements and minimum success rates for transplantation of corals as mitigation (these are direct topics of MICCI & FDOU Combined Projects 27, 47, 48); this could build on current effort of FDEP and USACE to coordinate mitigation requirements to simplify permit applications;
 14. Build on current effort of FDEP and USACE to coordinate mitigation requirements [but not amount] as a way to simplify process for permit applicant;

15. Seek interagency development of template special conditions and pre-, during, and post-construction monitoring methods to address the difficulty in proving causation of harm from a project, particularly when storms have occurred;
16. Seek a Congressional grant to USACE of statutory authority to use administrative penalties for enforcement of violations of permits under Section 10 of the Rivers and Harbors Act;
17. Ensure that each special condition included in a permit is clearly numbered as this aids enforcement when referencing the condition;
18. Use date certain language such as “Beginning of construction” or “Prior to operation” in permit conditions since calendar dates or vague language can both lead to problems; FDEP is increasingly using the date from the “Notice of Commencement” documents they receive;
19. Use increased pre-, during-, and post-construction monitoring to assess impacts, with BACI sampling designs if possible (these are topics of MICCI & FDOU Combined Projects 27, 47, 48); improving monitoring will always be an essential component of improving C & E;
20. Include in all permits remediation and monitoring requirements for any impacts discovered in the post-project survey that were not anticipated as part of the project permitted;
21. Southeast Florida contains a number of structures that flush stormwater across the beachface. Such structures can cause localized erosion on beaches and degrade water quality, thus causing potential harm to coral resources. Corrective actions via regulatory or other measures are suggested;
22. Development of a statewide program to certify contractors in monitoring methods. Sharing among agencies of the standard methodologies for doing coral surveys that FDEP BBCS (Dr. V. Kosmynin) is developing; discussion as to whether the methodology developed could serve as the basis for a contractor certification program;
23. USACE, NMFS, FDEP, and FWC should coordinate efforts to seek administrative penalties enforcement authority for USACE permits issued under §10 of the Rivers and Harbors Act; lack of such authority affects NMFS, FDEP, and FWC since any recommendations by these agencies which result in special conditions in a USACE §10 RHA permit are extremely unlikely to be enforced even if non-compliance evidence exists since USACE lacks administrative penalty authorities;
24. In response to agency requests, three modular Powerpoint awareness training units were produced for use within or among agencies to improve C & E effectiveness. Use of these materials is encouraged within and among agencies.
25. The awareness training materials are designed to be easily customized. Agencies are encouraged to revise these materials through time to advance best practices in permitting and C & E. Supervisory personnel should be involved at intervals

to answer questions and to help develop improved training and agency coordination protocols.

At the scale of specific primary agencies, recommendations include:

VIII.B NMFS

It appears that there is overlap in the criteria that USACE and NMFS informally use for identifying which projects should receive greater follow up. Factors given by NMFS to consider include 1) “problematic” projects (due to complexity of environment or action); 2) when NMFS is unsure of what actions would best protect resources; 3) logistics (i.e., closer and easier to access are better because time and resources go further for compliance review). Factors indicated by USACE include 1) tips (often anonymous); 2) information from self-certification reports; 3) very large projects; and 4) history of non-compliance.

The possibility was suggested that NMFS and USACE should develop a mechanism whereby NMFS and USACE coordinate on the information needed by USACE to evaluate compliance and pursue enforcement for the permits which NMFS has identified for implementation checks with NMFS conservation recommendations. It is not clear whether such additional cooperation between USACE and NMFS would produce sufficient value to justify the effort; such cooperation would be subject to the limitation that almost none of NMFS’ monitoring activities take place in open, deep water and very little is related to beach nourishment projects that have potentially significant impacts for corals. In part due to cost and time constraints (projects closer to office locations are easier and quicker), most NMFS monitoring occurs in interior waters, bays, estuaries, and on the landward side of barrier islands. This continues to leave a significant gap in independent monitoring activities for open-water areas. Implementing this increased USACE and NMFS cooperation in compliance monitoring would require increased agency resources for NMFS to increase its monitoring activities, but an increase in dedication of resources for monitoring to ensure compliance might be better used directly by increasing USACE compliance activities rather than trying to leverage NMFS information generated for evaluation of NMFS conservation recommendations. In addition, we recommend:

- Investigate feasibility of establishing more specific regulatory criteria under the ESA to determine what impacts constitute “destruction or adverse modification” of critical habitat. The current “working definition” of adverse modification should be adopted as a rule once it is determined if it is specific enough.
- Ensure that NMFS is prepared and proactive in the process of reviewing the 2012 round of USACE nationwide and general permits to ensure that projects that would qualify for such permits would not, individually or cumulatively, adversely impact coral resources.

- Create flowcharts of NMFS permitting, compliance, and enforcement processes within both the Habitat Conservation and Protected Resources Divisions to improve within and among agency information transfer of basic protocols.

VIII.C USACE

USACE should consider seeking Congressional authority for administrative penalties authority for enforcement of §10 of the Rivers and Harbors Act.

For improved coordination, USACE should submit electronic copies of new permits for coastal construction to FDEP. This will close the loop since USACE receives the FDEP permit as a requirement prior to federal permit issuance.

USACE should consider adopting a permit tracking system that communicates with other agency systems (e.g., FDEP) and that can alert staff to send reminder letters when USACE fails to receive timely self-certification letters. Similar basic permit tracking subsystems of this type are currently used across FDEP offices, with improved efficiency.

USACE should avoid simple “incorporation by reference” of mitigation plans and biological opinions as such incorporation can lead to problems when the mitigation plan was not drafted with consideration of the need to be legally enforceable; instead, when a biological opinion under the ESA is issued or a mitigation plan is required for a USACE permit or NMFS offers conservation recommendations that are accepted by USACE, the USACE permit should include all necessary special conditions to comply with the biological opinion or accepted conservation recommendations;

VIII.D FDEP

FDEP could ultimately save time and money by allocating increased funding and resources for C & E activities in FDEP’s BBCS. Increased funding and resources should be accompanied by: 1) the responsibility to document increased interagency cooperation in monitoring and enforcement activities and 2) development and implementation of specific criteria for which permits require what minimum level of monitoring and maintenance.

FDEP and USACE should examine the possibility of FDEP forwarding “Notice of Commencement” to USACE for compliance purposes. This would be particularly useful if USACE were to develop a similar computer tracking system that could alert USACE to missed monitoring report deadlines. Supervisory officials have also indicated that one possible way to improve coral protection would be to establish an aquatic preserve for corals off of Broward County’s coast.

While the CCCL program does not permit projects in the water, trucked-in sand placed on beaches (often termed dune repair) often ends up interacting with waves at some point and subsequently settling on submerged nearshore resources. Such interaction can create chronic turbidity, particularly if the trucked sediments (often from inland quarries) are not highly compatible with the native beach. Thus, corals would be better protected if the CCCL program had criteria in rule for trucked-in sand and dune repair that are similar to the criteria for nourishment projects. FDEP should continue the commendable rulemaking efforts to include sediment criteria standards for trucked sand fill; other criteria for these projects, similar to those applied to nourishment projects, is encouraged.

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Note: legal citations are provided as footnotes throughout the document

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- Appendix 2. Example: USACE responds to NMFS concerns under OCSLA and EFH.
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- Appendix 4. Atlantic Branch SOP for evaluating compliance with EFH conservation recommendations, NMFS Habitat Conservation Division.
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Appendix 1. MICCI projects of relevance to Combined Project 4, 21, 23, 24.

Summaries of projects of potential relevance to Combined MICCI Project 4, 21, 23, 24 follow. Many of these projects are underway as of Dec 2010; see the pending final reports of such projects for recommendations of relevance to this project. All completed projects from the four SEFCRI focus groups are available at:

<http://www.dep.state.fl.us/coastal/programs/coral/reports/>.

MICCI and FDOU Project 1: Coral Laws and Rules Database

This project is underway. The main goal of the study was to identify and evaluate local, state, and federal laws and rules to improve compliance and enforcement of regulations designed to protect coral reef resources and minimize reef impacts. Regulations pertaining specifically to the Southeast Florida region were identified and evaluated for analysis. Only regulations specifically focused on issues related to fishing, diving and other uses (FDOU), and the impacts of maritime industry and coastal construction projects (MICCI) on coral reef resources were included. Although land-based sources of pollution are also a major threat to the health and continued integrity of coral reef ecosystems, they are outside the scope of the project.

MICCI Project 3: A Study to Identify & Evaluate Existing and Emerging Innovative Technologies for Coastal Construction Final Report.

The summary from the final report includes several conclusions of relevance to C & E (the report is at: <http://www.dep.state.fl.us/coastal/programs/coral/reports/>).

Special Conditions for Permits: In regulatory permitting, it is typically not the project descriptions or the general conditions sections of a permit that offer the most coral reef protection. The project descriptions only give a general description of the project components and the general conditions involve standard language that applies to regulated projects across the board. It is the “special conditions” placed in a permit that allows the regulator to apply specific environmental protective measures that may be unique to a project.

All Coastal Construction Work, Prevention Conditions

Prior to permit issuance, the permittee shall provide (insert regulatory agency) financial assurance in the form of a pre-approved financial instrument for inadvertent or non-permitted environmental damage in the amount of (insert written number) million dollars (insert written numerical amount);

- Prior to permit issuance, the permittee at a minimum, shall develop, have approved by the agencies, and implement plans that address the following coastal construction issues;
- The permittee shall provide, at its own expense, a consulting firm to act as an independent compliance and enforcement officer for the (insert regulatory agency);
- The permittee shall develop training modules for all workers relating to coral resource sensitivity; nature, configuration, and mapping of coral communities; value; and resource protection measures. The permittee shall submit the training modules to the (insert agency name) within 30 days prior to the pre-construction meeting;
- The permittee shall conduct a pre-construction meeting a minimum of 30 days prior to commencement of construction. The permittee shall provide a minimum of a 30-day advance written notification of the pre-construction meeting to the (insert agency name) and other federal agency staff so that the agencies can participate;
- The permittee shall conduct pre-, during, and post-construction meetings with agencies and the permittee's staff to discuss lessons learned and to train and educate contractors and associated personnel on environmental resources.

Construction Conditions

- The permittee shall conduct inspections of all work space areas such as vessel transit areas, anchoring areas, work space, and corridor areas within 48 hours of work commencement and 48 hours after completion of each phase of the construction. Post-project comment from a Project 4, 21, 23, 24 reviewer: need also daily independent monitoring of the dredge activities (e.g. if the dredge remained within borrow area and predetermined dredge cuts, what/if any biological components were contained within the dredged material?).
- All construction barges and vessels shall be designed for zero discharge of contaminants. Post-project comment from a Project 4, 21, 23, 24 reviewer: pipelines need to be checked daily for leaks during construction.

Coral Stress Monitoring Conditions

- In order to monitor corals for project-induced stress, the permittee shall conduct biological assessment of the four designated representative coral species: hard coral species *Montastraea cavernosa* and *Solenastrea bournoni*, and soft coral species *Erythropodium caribaeorum* and *Briareum asbestinum*. The assessments shall be conducted at all (specify number of monitoring sites) of the Coral Stress Monitoring Stations (CSMS) and one Control Site. The (insert regulatory agency) shall be contacted as soon as possible, but no more than 2 hours after the exceedance of the coral stress threshold is observed. Post-project comment from a Project 4, 21, 23, 24 reviewer: two control sites preferred: one N and one S.
- Coral Stress Monitoring shall be conducted in strict accordance with a Marine Turbidity, Sedimentation, and Reef Monitoring Plan, which shall include qualitative

biological assessment of the representative coral species, once every week for 6 weeks before commencement of activities, once every week during construction, and once every week for 6 weeks after completion of construction. All sites shall be revisited, photographed, and the representative coral species shall be examined for stress caused by sediment accumulation 6 weeks after construction.

- Coral Stress Reporting: Weekly summaries of coral stress monitoring results shall be submitted to the regulatory agency staff. Formal reports shall be submitted to the (inset regulatory agency) every 2 months, that include photos, sampling results, and stress indicator determinations. Reporting shall continue until weekly sampling is concluded 6 weeks following completion of the nearshore construction
- In the event that a coral stress threshold is exceeded, the activity causing the turbidity or sedimentation shall cease until corrective actions have been implemented to reduce coral stress and the contractor and permittee shall contact the (insert regulatory agency) as soon as possible, but no more than 2 hours after detecting the coral stress threshold exceedance.

Turbidity and Coral Monitoring Conditions

- Prior to construction, laboratory calibration experiments testing sedimentation on corals in aquaria shall determine threshold values of stress indicators, called index values. The coral stress index values shall be established to represent the health of the coral. A scale of 0 (zero) to 3 (three) shall be used where 0 represents no observed bleaching, to mucus production, to polyp extension, to a value of 3 representing the maximum observed changes in the coral species. Prior to construction, the permittee shall submit the laboratory-developed index values to the (insert agency name) to be used as guidance for assessing coral health after the construction is complete.
- The permittee shall establish nearshore monitoring stations or cross-shore permanent transects, extending seaward to the projected equilibrium toe of fill (ETPF), to monitor and identify potential effects from sediment and turbidity movement and stress indicators on scleractinian (stony) and soft coral species, and on adjacent, deeper, and stable nearshore hardbottom communities. The permittee shall conduct surveys of nearshore hardbottom resources, fish populations and epibenthos monitoring sites, and depth of sediment, immediately prior to construction (this will be compared to baseline data to get information on natural variability), within 90 days of completion of construction, and annually for the first 3 years after construction, and again at the end of the fifth year. The permittee shall monitor the offshore hardbottom habitat, located adjacent to the borrow sites for sedimentation generated by the hopper dredging operations. Amount and duration of sedimentation will be monitored, as well as stress indicators of stony corals affected by the dredge operations, at designated monitoring stations located adjacent to each borrow area.

- If in situ coral stress indicators exceed defined values and show 2 out of 3 observable stress indicators and the sediment monitoring sites for any borrow area has accumulated daily average sediment values below 1.5mm, then histological tissue analysis of affected corals will be conducted.
- The permittee shall collect data from a boat-towed ADCP to assist in predicting sedimentation and turbidity plume dispersion.
- The permittee shall implement a compliance construction-monitoring program.

Clean-up and Reporting Requirements Conditions

- Should the release of drilling materials occur on top of seagrasses, coral reef, or hardbottom communities, the permittee will notify the (insert agency name) Compliance and Enforcement Section at (insert agency contact phone number) immediately when the violation is first detected. No work in or over water shall be continued until approval has been given by (insert agency name) staff.
- Within 90 days of a successful installation, the permittee shall submit to the (insert agency name) a summary of the installation, problems encountered, and a comparison of the actual impacts to coral reef and hardbottom habitat versus those estimated permitted impacts included in the impact tables and mitigation plan.

Cable Laying Projects:

- In order to avoid impacts to coral reef and hardbottom resources, the applicant shall lay the cable within the agreed-upon gap in the third reef system and will horizontal directional drill beneath the first and second reef systems.
- Prior to the arrival of a cable laying vessel, a clear route into and out of the reef gaps will be marked by the use of a buoy system. The buoys will be installed by divers and will not be attached to the ocean floor in areas of benthic resources such as seagrass beds, hardbottom communities, or coral reefs.
- The permittee shall have divers in place for a post-lay to ensure the cable is moved to free pinned corals and severed or dislocated corals are tagged for repair or relocation.

MICCI Project 3 Question: What rule changes might be required to ensure that coral reefs, hard/live bottoms and associated coral reef resources are protected during these activities?

Changes for Local Regulatory Agencies

- The counties should develop county level discharge prohibitions; and
- It would be beneficial for Broward County to re-instate their old ordinance to ensure compliance with rules regarding discharges and drainages that are diverted over the beach.

Question: Can monitoring programs track the success, or identify failures, of new technologies in relation to protection of reef resources?

Regulatory issues:

- Regulatory agencies should require more stringent monitoring programs;

- Monitoring plans should be peer-reviewed before monitoring begins;
- Data collection standards should be established for acceptability that must be met (e.g., precision, accuracy, completeness); and
- Data validation should occur during the project by regulators and a peer review team.

Monitoring issues:

- Conduct pre- and post-construction controlled investigations (BACI, Peterson Presentation);
- Conduct independent peer reviews (cost may be a factor);
- Set acceptable data collection standards and have data publicly available for independent analysis review;
- Establish contingency plans for acceptability; and
- Establish an independent scientific advisory panel for complex projects so that regulatory agencies can use this oversight committee for guidance. This may be difficult in cases where only the contracting officer has the legal authority to direct the contractor.

MICCI Combined Project 5, 10, & 12: Facilitate Information Transfer Regarding Appropriate Considerations and Practices when Conducting Coastal Construction Activities.

This project is underway and will be completed by summer 2011. The goal of this project is to facilitate information transfer between coastal construction contractors and local, state, and federal agencies to improve protection of coral resources. This project will be used to provide information and educate project developers, managers, and contractors on alternative construction practices that will enhance coral reef protection.

A quick reference guide for all completed SEFCRI projects is being developed. There will be sections dedicated to the products completed within each of the four Focus Areas of the SEFCRI to date. Each project will be summarized for quick reference including links to relevant information.

MICCI Project 6 Best Management Practices (BMPs) for Construction, Dredge and Fill, and Other Activities Adjacent to Coral Reefs.

The final report summary includes the following topics and conclusions: Several of these results are noteworthy for Project 4, 21, 23, 24.

Biological Monitoring

Biological monitoring is required for any project that is proposed for construction in the vicinity of hardbottom communities. Monitoring is necessary to determine any direct or indirect biological impacts to the ecosystem caused by physical or chemical changes to

the environment as a result of the project. Biological monitoring should be conducted using the scientific method. Specifically, the biological monitoring should:

- (1) identify the purpose/potential threats/areas of concern;
- (2) document the background environmental conditions of the area;
- (3) provide detailed, scientifically valid methods for data collection and analysis;
- (4) state anticipated outcomes with “success/acceptance” criteria;
- (5) include a peer/independent review; and
- (6) provide references of typical methods for different habitats. The level of detail of the biological monitoring plan should be equivalent to the anticipated environmental impact. The monitoring should also be conducted by a qualified scientist who is free of any conflict of interests.

Physical Monitoring

The collection of physical coastal data is required to determine the performance characteristics of beach restoration and nourishment projects and overall monitoring of the coastal system. Physical monitoring data often compliment biological monitoring programs by providing supplemental information on sand volumes and sand transport within the littoral system. For erosion control projects in which the State of Florida participates as a cost share partner, the collection of physical monitoring data is required. In addition to project monitoring, in 2001 the state initiated a comprehensive Regional Coastal Monitoring program that supports detailed monitoring over one quarter of the state annually. All of the data collected must meet the technical specifications and standards as developed by the FDEP BBCS. All of the monitoring data collected by the state or project monitoring data submitted to the state is made publicly available.

Artificial Reefs

Creation of artificial reefs is a common way to provide compensatory mitigation for impacts to hardbottom or coral habitat from coastal construction activities. Selection of appropriate materials for artificial reef construction is important and depends on the impacted habitat. Artificial reef geometry is also important and reef design should include an analysis of structural stability and potential for structural settlement. Artificial reef placement should be considered before placement of materials and include a pre-placement site assessment.

Recruitment of hard and soft corals, sponges, and algae will differ based on the texture of the surface provided for attachment. Guidance manuals for the selection of artificial reef materials are included in section 9 of the report. Other important factors to consider include the depth of water in which the reefs are to be built, the extent of relief that should be provided, and the availability of crevice space for shelter. Post-project comment from a Project 4, 21, 23, 24 reviewer: size appropriate crevice space should be considered (i.e., large crevice appropriate for large fish recruitment small crevice for

juvenile and small fish recruitment). Artificial reefs should be monitored following deployment and periodically thereafter to determine success regarding its intended objective.

MICCI Combined Project 7 & 11: Reference Document and Guide to the Evaluation of Permitted Coastal Construction Activities That Affect Coral Reef and Coastal Resources in Southeast Florida

This project, still underway, is acquiring and entering primary data for all coastal construction permits from 1995 to present for the four-county area. Primary information is coming from JCP, ERP, and CCCL projects. This includes wetlands as well as coral permits, though docks and other projects exempted under ERP rules are not being entered into the database. There are no fields in the database to explicitly evaluate effectiveness, compliance, or enforcement, but there may be ways to incorporate preliminary information to accomplish these goals. Significantly, the project is developing a variety of recommendations that have relevance to C & E in terms of permitting protocols or post-project analyses.

MICCI Project 9 & 25: Management Options to Prevent Anchoring, Grounding, and Accidental Impacts to Coral Reef and Hardbottom Resources in Southeast Florida – Phase 1

This project served as a follow-up to the primary recommendations from MICCI Project 2 titled: *Rapid Response and Restoration for Coral Reef Injuries in Southeast Florida: Guidelines and Recommendations Handbook*. Nineteen recommendations from that report are evaluated in terms of progress since their original development. Several of these recommendations interface with C & E issues involving the CRPA. The report is at <http://www.dep.state.fl.us/coastal/programs/coral/reports/>.

MICCI Project 18 & 19: Guidelines and Management Practices for Artificial Reef Siting, Use, Construction, and Anchoring in Southeast Florida

This document provides a highly comprehensive set of Best Management Practices (BMPs) for artificial reef development. A BMP was defined as a specific method or a more general course of action intended to guide objective and responsible development of artificial reefs on the sea floor, whether near or far away from coral reefs, based on validated scientific knowledge and appropriately tempered by professional experience and judgment. When applied to reef planning, design, siting, construction, use, management and related aspects BMPs can foster positive ecological, physical and socio-economic performance of artificial reefs, and limit the need for C&E.

Following stakeholder guidance and drawing upon background information as necessary, primary information is organized in the chapters within the list below. There is no Executive Summary or Conclusions section. Guidelines may be as concise as a sentence, or longer, depending on the topic as addressed in the following chapters.

- Asking the right questions before starting an artificial reef (Chapter 1)
- Historical background, trends, and applications (Chapter 2)
- Ecological function of artificial reefs (Chapter 2)
- Administrative aspects (Chapter 3)
- Planning (Chapter 4)
- Design (Chapter 5)
- Permitting (Chapter 6)
- Pre- and post-deployment (Chapter 7)
- Buoys and marking (Chapter 8)
- Maintenance and monitoring (Chapter 9)
- Compensatory mitigation (Chapter 10)
- Vessels (Chapter 11)
- Communications (Chapter 12)

The full report is at: <http://www.dep.state.fl.us/coastal/programs/coral/reports/>.

MICCI Project 26: Methodology for Preparing Cumulative Impact Sections of Project Reviews and Assessments in Miami-Dade, Broward, Palm Beach and Martin Counties, Florida

This project developed multiple products for assessing cumulative impacts. These products are available at:

<http://www.dep.state.fl.us/coastal/programs/coral/reports/>

Recommendations relevant to MICCI Proj. 4, 21, 23, 24 include:

1. Developing a comprehensive resource database to review the cumulative impacts of past, present and foreseeable coastal construction projects. Therefore, an updateable database is recommended to serve as a location to catalogue, search and store various materials stemming from the review of past, present, and proposed marine construction projects.
2. Establishing measurable goals, baselines and benchmarks against which to evaluate the individual and cumulative impacts of maritime industry and coastal construction projects on the southeast Florida marine ecosystem. To improve cumulative impact assessment, coastal permitting and zoning processes should become more oriented toward ecosystem-based environmental planning and regulation, instead of the project-by-project approach which is currently practiced. To facilitate this goal, the process of assessing cumulative impacts needs to be made both manageable and understandable to users in order to secure consensus on outcomes from a broad constituency of stakeholder.

3. Optimizing intergovernmental coordination while considering projects' cumulative effects on Southeast Florida's marine ecosystem. Individuals who review coastal project applications face this challenge. Agencies should dedicate resources so adequate and essential reviews can be conducted on all projects.
4. Conducting additional research on theoretical and applied issues before the full potential of cumulative impact assessment can be realized for marine ecosystems.

The appropriate local, state, and federal agencies should work together to implement these recommendations. Also, the public and regulated community should have access to the recommendations and provide input. The focus of the cumulative impact assessment should be on how the proposed action will affect the resource and whether the action will move closer to, or farther away from, the goals for that resource. Assessment should be combined with proactive, long-term management planning. This methodology is not intended to be the final accepted method for assessing cumulative impacts but rather the first step towards developing a final methodology.

MICCI & FDOU Combined Project 27, 47, 48: Coastal Project Monitoring and Evaluation

The goal of this project, currently underway, is to develop guidance for independent researchers and regulatory staff to ensure the effectiveness of permit monitoring requirements including pre-, during, and post- construction evaluations of permitted coastal construction and mitigation project surveys and monitoring, including that of artificial reefs. Objectives include a review of primary past and present local, state, and federal coastal construction and mitigation project survey and monitoring programs in the four county southeast Florida region (Miami-Dade, Broward, Palm Beach, and Martin counties), and to synthesize these data for strengths, gaps, sufficiency, statistical validity, and scientific rigor to create criteria, guidance, and recommendations for future nearshore and offshore surveying and monitoring.

FDOU 2,5,6,7: Development of a Marine Regulation Awareness Program

This project is underway and will develop a training program to address an underlying driver of coral regulatory C & E among user-groups: variable conservation ethics, or ignorance and disregard of existing rules. Many of these factors, coupled with increased user pressure, can push marine law enforcement officers beyond their capabilities to enforce regulations on protected marine life. The primary goal of FDOU Project 2, 5, 6, and 7 is to increase compliance with Florida fishing regulations. A corollary project goal is to increase compliance with diving and boating rules and regulations, as well as increased compliance with best practices related to recreational fishing, diving, and boating. Improved C & E of these objectives can also directly or indirectly influence coral health.

Appendix 2. Example: CFX Cable and USACE response to NMFS.

TO: Thomas Ruppert
FROM: Joe Mathews
RE: CFX-1 Cable Permit Document Review and Summary
DATE: November 23, 2009

I. Review and Issuance of the Permit

In April 2007, Columbus Networks USA Inc submitted an application to the USACE for a permit to install the Columbia-Florida Express 1 cable (CFX-1 cable), a subaqueous telecommunications cable, from Boca Raton, Florida to Columbia, South America. The CFX-1 cable enters the water in Boca Raton through an existing conduit and exits the conduit 3,000 feet seaward of the mean high water line. The cable is freely laid on the sea floor from the seaward end of the existing conduit all the way to Columbia, South America.

In January, 2008 NOAA NMFS Habitat Conservation Division (NMFS) and the South Atlantic Fisheries Management Council commented on the proposed project. The main concern was potential impacts to deep-water corals on the Miami Terrace and Escarpment, an area proposed to be listed as a Habitat Area of Particular Concern for deepwater corals.

On January 14, 2008 NMFS stated (in a letter to the USACE) that NMFS could not come to a conclusion about the proposed activity because the discussion of impacts to NMFS trust resources is incomplete due to limited information in the public notice. The public notice was limited to discussion of activities occurring in the waters of the State of Florida (out to 3 nm) and did not include a description of the portions of the project that occurred in federal waters, which would include impacts to deepwater corals.

NMFS recommended the use of an individual permit rather than a letter of permission because:

1. NMFS believed that the project did not meet the statutory parameters under which a letter of permission may be used (minor, no significant individual or cumulative impacts on environmental values and no appreciable opposition) since the cable would be installed through areas of known deep water coral habitat.
2. The USACE elected not to exercise its jurisdiction under RHA §10 beyond 3 nautical miles. NMFS believed that the CFX-1 cable project warranted USACE assertion §10 jurisdiction beyond 3 nautical miles pursuant to OCSLA because the portions of the CFX-1 cable project within three nautical miles could not be separated from the remaining portion in federal waters and the cable qualified as "other devices on the seabed."

3. NMFS also pointed out the USACE asserted jurisdiction in federal waters for a similar project (a pipeline) in the same area.

NMFS recommended that an Essential Fish Habitat (EFH) assessment be provided, which assessment should include an analysis of the impacts of the project on the relevant fishery resources. NMFS EFH habitat conservation recommendations (required under the Magnuson-Stevens Act due to the adverse impacts of the project on EFH) state that the USACE *shall* not authorize placement of the cable in areas known to support habitat for deepwater corals. NMFS stated that they would re-evaluate the recommendation after they receive an EFH assessment including documentation of mitigation for past impacts and minimization of future impacts.

On January 28th, 2008 the applicant provided the USACE and NMFS with graphic evidence that the cable would pass north of the Miami Terrace and Escarpment.

On February 15th, 2008 the USACE issued a 10 day letter to NMFS requesting a response to the graphic evidence or the permit would be issued.

On February 19th, 2008 a biological assessment for EFH was completed at the request of the USACE for NMFS.

On February 21st, 2008 NMFS responded saying that the project had been revised to the satisfaction of NMFS. Specifically the new permit would include special condition number 6 which required the applicant to submit a video survey and report for corals occurring along the cable rout between three nautical miles and the Exclusive Economic Zone (about 30 miles in the location of the CFX cable). The survey was to include mapping, review of the report by an expert on deepwater coral and recommendations for minimization of impacts.

The jurisdictional issues were not resolved and were tabled to be discussed (between the USACE and NMFS) separate from the CFX-1 permit and at a later date.

The day that NMFS responded, USACE approved and submitted a *letter of permission* authorizing the CFX-1 cable.

II. The Permit Conditions

The permit's special conditions required:

- A self certification statement of compliance to be submitted to the USACE within 60 days of completion of the authorized work
- Pre-construction video survey of the cable corridor out to three nautical miles, within 30 days of permit issuance
- Post-construction video survey (and report) of the cable corridor out to three nautical miles, after initial assessment and remediation.

- Inspection of the CFX-1 cable over nearshore hardbottom reef systems to determine whether any *scleractinian* colonies were damaged or dislodged, within 30 days of completion.
- Identify and relocate those corals that have become dislodged or are in need of serious repair.
- Monitoring to begin 6 months after completion of a detailed assessment survey (baseline survey) and then one two and five years after that. Monitoring will terminate after five years if the applicant can prove re-attachment is consistent and predictable and additional monitoring is not necessary.
- If significant movement of the cable occurs, permittee shall take corrective measures such as anchoring the cable.
- Special Condition 6: Post-installation video survey and report (pursuant to a specific survey methodology) between 3 nautical miles and the exclusive economic zone. Including, mapping of all locations along the cable that have high probability of being hardbottom habitat. Results must be reviewed by an expert on coral habitat (selected in consultation with NMFS). Submitted to the USACE, NMFS and South Atlantic Fishery Management Council along with recommendations on minimizing the cumulative impacts of cables and pipelines (existing and future) that will cross the area proposed to be listed as a Habitat Area of Particular Concern for deepwater corals.

III. The Video Survey of the CFX-1 Cable in the EEZ (Special Condition 6)

From June 16 to June 19, 2008 a video survey was conducted by a Remotely Operated Vehicle (ROV) in an effort to comply with *special condition number six* (requiring video survey of the cable from 3nm to the outer limit of the EEZ).

The survey was terminated early because the ROV was not able to maintain its position along the cable due to the high currents. The ROV completed just over 57% of the required survey before the operation was aborted. They had surveyed 29.71 nautical miles of the cable out to a depth of 531 meters. Of the 51.7 nautical miles of cable that were supposed to be surveyed, 21.99 remained when the operation was aborted.

Two platforms have been used by the principle investigator and others for benthic surveys in the EEZ (Johnsons-Sea-Link Manned Submersible and an unmanned TONGS ROV. Neither of those was selected because they were: significantly different in cost, unavailable for the time period needed, or not significantly different in the capabilities of the ROV that was selected.

It is clear from the survey final report that the inability of the ROV to operate in the survey area was not a surprise. This issue was discussed between the scientist (principal investigator) and Tyco (the company operating the ship and ROV) before the survey via e-mail and when the science crew first arrived in at the ship to conduct the

survey. The ROV crew explained that there was a possibility that the ROV chosen would not be able to conduct the survey in currents over 2 knots and the scientists explained that the current averaged over 3 knots in the area where the survey was to take place.

The ROV crew explained that it may be possible to complete the survey by launching on the shallow end of the survey then traveling on the bottom to reach the deeper portions of the cable but their attempts proved unsuccessful.

In discussing considerations for future surveys and deep water cables the survey pointed out that the capability of any “tethered ROV” to conduct video surveys in the area of the Atlantic where this one was conducted out to the depth of the EEZ is limited. The use of a manned submersible also has limitations. The survey explained that the JSL manned submersible which has been used for similar surveys can only operate for seven hours a day which means that it takes longer to do the survey and becomes extremely expensive.

The survey report also stated that additional survey transects were planned in the areas with hardbottom habitats, but these transects could not be completed because of revisions to the operational plans that were made due to the limitations of the ROV.

Appendix 3. Example: FAU ADCP deployment and USACE general permit.

Subject: FAU ADCPs and deepwater coral habitat
From: Jocelyn Karazsia <Jocelyn.Karazsia@noaa.gov>
To: Myra Brouwer <Myra.Brouwer@safmc.net>, <Debby.Tucker@dep.state.fl.us>, <...
Date: 7/23/2009 11:57 AM
Attachments: FAU ADCPs.pdf; document2009-02-26-092337.pdf; Jocelyn_Karazsia.vcf
CC: Pace Wilber <Pace.Wilber@noaa.gov>, "Gregg, Lisa"

Hi Everyone,

I attached a map of the FAU ADCP deployment locations with respect to the SAFMC coral HAPC, which is in the final designation phase. I retrieved the deployment locations from the Department of the Army permit, which is also attached. The ADCPs were deployed in February 2009. Note that 3 of the 4 ADCPs were placed in areas known to support deepwater corals.

The Jacksonville District did not consult with NMFS on this project. I encourage the Corps of Engineers to coordinate with NMFS for projects that may adversely affect EFH, including deepwater corals. Although the regional conditions for this nationwide permit do not authorize impacts to corals, I can not find any information that indicates that the area was surveyed and that the ADCPs were placed in a manner that would avoid impacts to corals.

Tori and Melody, Can the Corps of Engineers require FAU to complete a post-deployment survey to document any impacts to resources?

Thank you for looking in to this and please let me know if you would like to discuss this further.

Jocelyn



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FLORIDA 33410

February 19, 2009

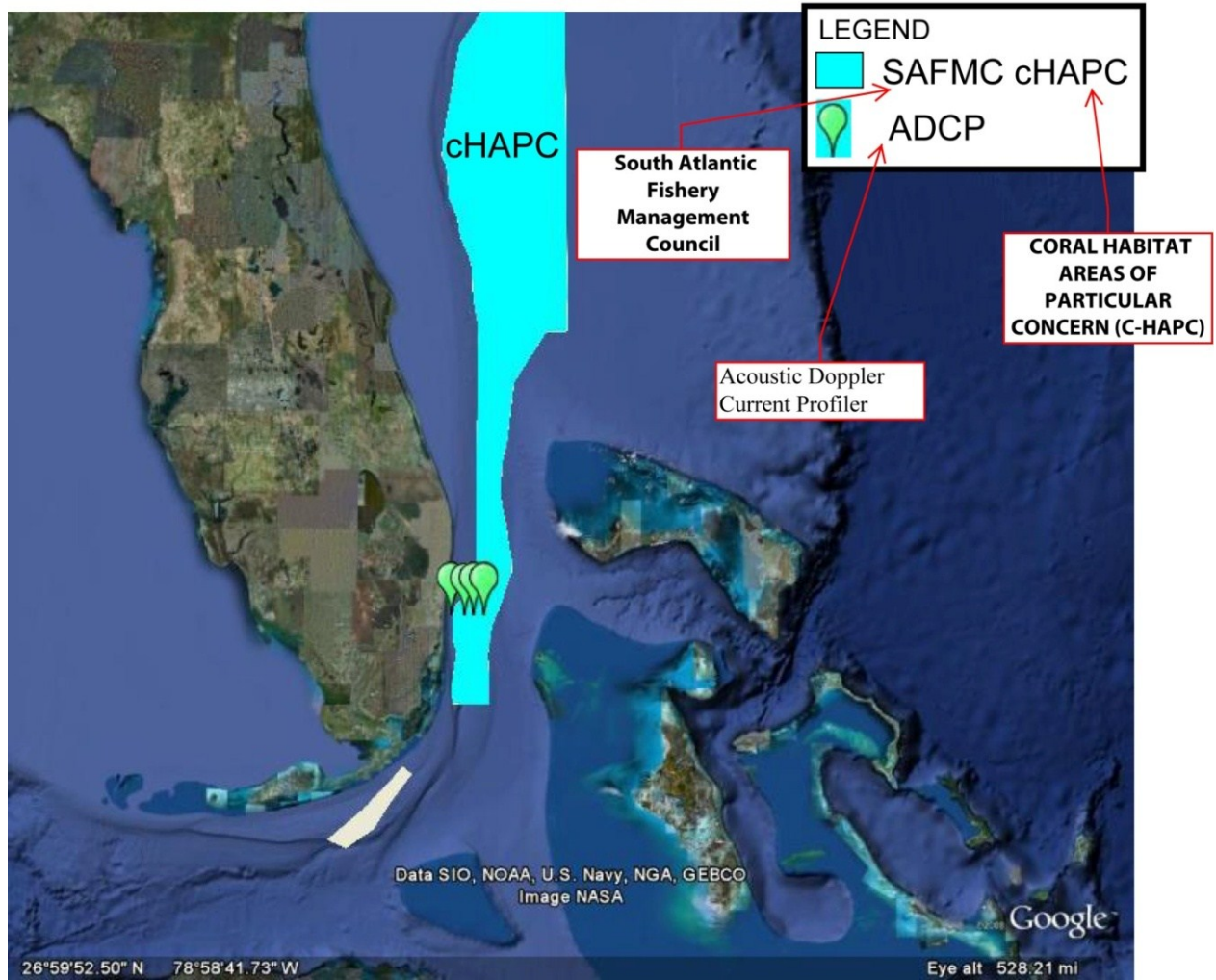
Palm Beach Gardens Regulatory
SAJ-2008-1568 (NW-MJW)

Florida Atlantic University
c/o Susan H. Skemp
101 N. Beach Road
Dania Beach, FL 33304

Dear Ms. Skemp:

Your application for a Department of the Army permit received on January 8, 2009, has been assigned number SAJ-2008-1568 (NW-MJW). A review of the information and drawings provided shows the proposed project consists of the deployment and recovery of four underwater buoy systems. Deployment will be for a period of up to 9 months, due to the limitations of battery life. The project is located at the following coordinates in the Atlantic Ocean, located approximately 5 nautical miles from east to west:

System Description	Mooring Location	Water Depth	Height Off Bottom
Buoy 1 - I upward looking 300 kHz ADCP, I downward looking 300 kHz ADCP	26° 4.3' N 80° 2' W	220m	120m
Buoy 2 - I upward looking 75 kHz ADCP	26° 4.3' N 79° 55' W	260m	10m
Buoy 3 - I upward looking 75 kHz ADCP	26° 4.3' N 79° 50.5' W	340m	10m
Buoy 4 - I upward looking 75 kHz ADCP and 1 downward looking 300 kHz ADCP.	26° 4.3' N 79° 45' W	660m	220m



***This figure is a part of the e-mail provided in Appendix 3 of this document.

Appendix 4. Atlantic Branch SOP for evaluating compliance with EFH conservation recommendations, NMFS Habitat Conservation Division.

Atlantic Branch SOP for Evaluating Compliance with EFH Conservation Recommendations, NMFS Habitat Conservation Division (September 2009)

Effective implementation of measures to protect, conserve, and enhance essential fish habitat (EFH) require periodic evaluation of the measures taken to ensure they perform as intended. The process that begins with proposing a project and ends with examining how an ecosystem responds to a constructed project provides several opportunities for evaluating the effectiveness of EFH protection measures. These opportunities include:

- Development of EFH conservation recommendations
- Translation of EFH conservation recommendations into permit conditions
- Translation of permit conditions into a constructed project
- Response of fishery species and the ecosystem to the constructed project

All of these opportunities are important and essential to determining the effectiveness of an EFH program.

The primary objective of this standard operating plan (SOP) is to establish a process for collecting pre- and post-construction information to determine if EFH conservation recommendations provided by NMFS and implemented by federal action agencies in their project authorizations have resulted in sufficient protection of NOAA trust resources. Through coordination with federal and state enforcement agencies, we aim to evaluate the effectiveness of our EFH conservation recommendations and to develop knowledge necessary to improve the conservation recommendations. In addition, the field notes and reports we prepare for evaluating conservation recommendations may prove useful to agencies with compliance and enforcement missions. (Note: For the purposes of this SOP, *compliance* actions are associated with a permit condition and *enforcement* actions are associated with activities that are not authorized under a permit; the focus of the SOP is on compliance.)

Procedure

Develop a List of Priority Projects for Compliance Reviews

Atlantic Branch staff will maintain a list of priority projects for compliance reviews. This list will be updated and sent to Charleston by March 31 and August 31 of each fiscal year and reported using the format provided in Appendix B. The criteria for listing projects are:

- EFH conservation recommendations are expected to be difficult to implement technically
- EFH conservation recommendations are likely to have compliance issues
- All EFH conservation recommendations were not included in the project authorization
- Project has features that would be instructive to monitor for future application

Each staff member should aim to conduct ten evaluations per year; it is **not** required that the staff member conducting the compliance review also be the one who responded to the original public notice, but the projects receiving the compliance review must have been examined by HCD.

Obtain Project Authorization and Self Certification of Compliance

In most cases, the project authorization is a permit issued by the US Army Corps of Engineers. NMFS should obtain a copy of the permit as soon as a project is identified as a priority for our compliance reviews; preferably a request for the permit should be included with the response to the 10-day letter. It has been noted that the Jacksonville District periodically transfers permit files from its field offices to private industry for microfilming. If NMFS does not obtain a copy of the permit before this transfer occurs, obtaining a copy may prove problematic.

The COE requires all permittees (SPs, LOPs, RGPs, NWPs) to submit a *Self Certification of Compliance* as provided in the NWP program¹⁵⁸. Ideally, we should obtain a copy of this certification for the project that we will examine for compliance. In practice, it has been very difficult to obtain the *Self Certification of Compliance* due to the infrequency at which they are sent to COE District and field offices. The availability of these certifications should be discussed with COE.

Notify Agencies

Once projects are identified as a high priority for compliance evaluation, staff should coordinate with the enforcement staff from the appropriate state, federal, and local agencies (Appendix A).¹⁵⁹ The purpose of this coordination is to refine our compliance concern and provide notice that we plan to visit the site. Encourage participation from these agencies.

¹⁵⁸ <http://www.saw.usace.army.mil/wetlands/Policies/SOPI.pdf>

¹⁵⁹ The appendix referred to here was part of the original document from which this text is taken; the referenced "Appendix A" is not included here.

Pre- and Post-Construction Field Inspections

In many cases, it will be clear early during an EFH consultation that a project will eventually become a high priority for compliance review. In such cases, every effort should be made to conduct a site inspection as part of the EFH consultation, and the results of that pre-construction site inspection should be recorded in the Branch's field investigation report format (separate from this SOP). Inspections conducted during and after construction should use Appendix C. Prior to conducting a during or post-construction field inspection, closely review the permit and, if available, the *Self Certification of Compliance*. Always make sure you have permission to be on site.

Evaluation

Based on information collected, evaluate the effectiveness of the actions EFH consultation with respect to each of the four steps listed above. This evaluation is reported in the latter portion of Appendix C and will be forwarded to agency partners that were involved in the project. A copy will also be included SER's official project file.

Data Management

Electronic copies of reports described in Appendix C should be filed in each respective field office and provided to the Charleston Office by August 31 of each fiscal year. Summaries of inspections also are due by August 31 and should be done using Appendix B.

Points of contact for compliance at state and federal agencies

SER Beaufort Office (Last updated January 2009)

COE Wilmington District

Raleigh Area Office: Jean Manuele, Jean.B.Manuele@usace.army.mil, 919-876-8441 x22

Washington Area Office: David Lekson, David.M.Lekson@saw02.army.mil, 252-975-1616 x22

Wilmington Area Office: Keith Harris, Keith.A.Harris@saw02.usace.army.mil, 910-251-4631

EPA

Rebecca Fox, Fox.Rebecca@epa.gov, 828-497-3531

Also see POC for Region 4 in Atlanta

NC Division of Coastal Management

Elizabeth City: Ted Sampson, Ted.Sampson@ncmail.net, 252-264-3901

Washington: Terry Moore, Terry.Moore@ncmail.net, 252-946-6481

Morehead City: Tere Barrett, Tere.Barrett@ncmail.net, 252-726-7021

Wilmington: Jim Gregson, Jim.Gregson@ncmail.net, 910-796-7215

SER Charleston Office (Last updated January 2009)

COE Charleston District

Tina Hadden, Tina.Hadden@sac.usace.army.mil, 843-329-8000

COE Savannah District

Richard Morgan, Richard.W.Morgan@sas02.usace.army.mil, 912-652-5139

EPA

See POC for Region 4 in Atlanta

SC Department of Health and Environmental Control

Bill Eisner, eiserwc@dhec.sc.gov, 843-953-0237

GA Department of Natural Resources, EPD

Keith Parsons, Keith.Parsons@dnr.state.ga.us, 404-675-6245

SER St Augustine Office (Last updated September 2007)

COE Jacksonville District

Nassau, Duval, Clay, Flagler and St. Johns Counties

Dianne Griffin, Dianne.S.Griffin@usace.army.mil, 904-232-3697

Brevard and Indian River Counties:

Teresa Frame, Teresa.M.Frame@usace.army.mil, 904-232-1677

EPA

Ron Miedema, Miedema.Ron@epa.gov, 561-616-8880

Also see POC for Region 4 in Atlanta

FL Department of Environmental Protection

Northeast District: Mathew Kershner, Mathew.Kershner@dep.state.fl.us, 904-807-3300

Central District: Carol O'Keefe carol.okeefe@dep.state.fl.us, 407-894-7555

St. Johns River Water Management District

Allen Baggett, 386-329-4596

SER West Palm Beach Office (Last updated January 2009)

COE Jacksonville District

St. Lucie, Martin, Palm Beach and Broward Counties

Cameron Shaw, Cameron.S.Shaw@usace.army.mil, 904-232-1195
Jack Dunphy, John.Dunphy@usace.army.mil, 904-232-3771

Miami-Dade and Monroe Counties

Robert Kirby, Robert.J.Kirby@usace.army.mil, 305-779-6050

EPA

Ron Miedema, Miedema.Ron@epa.gov, 561-616-8880

Monroe County, Bill Kruczynski, Kruczynski.Bill@epa.gov, 305-743-0537

Also see POC for Region 4 in Atlanta

FL Department of Environmental Protection

Central District: Carol O'Keefe carol.okeefe@dep.state.fl.us, 407-894-7555

Southeast District: Jason Andreotta, jason.andreotta@dep.state.fl.us, 561-681-6600

South Florida Water Management District

John Meyer, jmeyer@sfwmd.gov, 561-682-6773

EPA Region 4

Michael Wylie, Wylie.Michael@epa.gov, 404-562-9409

Format for listing priority projects for compliance reviews and for summarizing reviews

Atlantic Branch staff will maintain a list of priority projects for compliance reviews. This list will be updated and sent to Charleston by March 31 and August 31 of each fiscal year and reported using an Excel spreadsheet (available from Robin Wiebler). The same spreadsheet will be used to summarize results of compliance inspections. Compliance summaries will be due by August 31 of each fiscal year and each project summarized must include Appendix C as a separate Word file. Projects are to be reported as rows. The columns of the spreadsheet and data formats are:

Projects Lists Due by March 31 and August 31

Biologist: First Name

Report: FY200XQ2 or FY200XQ4

Project Name:

Project Number: For COE projects, begin with SAW-, SAC-, SAS-, or SAJ- as appropriate

Date of Public Notice: MM/DD/YYYY

Date of 10-Day Letter: MM/DD/YYYY

Permit Status: Pending, Awarded, Unknown

Project Status: Not constructed, Being constructed, Construction complete, Unknown

Why Listed: EFH CR problematic, EFH CR not accepted, Instructive project (choose one, use this order)

Projects Summaries Due by August 31

Date of Evaluation: MM/DD/YYYY

Permit Reflect EFH CRs: Full, Partial, No, Not clear

Date of Compliance Inspection: MM/DD/YYYY

Compliance Status: Full, Partial, So Far, No, Not clear

Follow-up Inspection: Necessary, Not necessary, Not clear

Refer to COE: Done (MM/DD/YYYY), Needed, Not necessary, TBD, Not applicable

Format for collecting compliance information

Applicant and action agency identifier (e.g., PN number), if FDOT include FDOT District and ETDM Phase											
Latitude & Longitude: Decimal Degrees (to 4 places) OR Degrees and Minutes (to 2 places)											
Latitude:						Longitude:					
Verified Using:				Google Earth				(Identify Other)			
Date of Inspection:							Time of Inspection:				
Tidal Stage:				Low				High			
								Rising			
								Falling			
								Neap			
										Spring	
Weather Conditions:											
		Sunny				Mostly Sunny				Mostly Cloudy	
										Warmer Than Usual	
		Rainy				Cloudy				Normal Temp.	
										Cooler Than Usual	
Water Clarity:				Sea Bottom Visible				Sea Bottom Barely Visible			
										Sea Bottom Not Visible	

NMFS Biologist(s):							
Others Included in the Inspection:		Federal		State		Applicant/Consultant	Other
List of attendees and organization represented:							
Method of Inspection:							
	Visual		Desktop		Other (explain)		

Project description (describe area impacted or mitigation site; include construction methods; BMPs used]:

Construction status:

Species observed during site inspection (mark with an asterisk if federally managed):

Vegetation:

Fish:

Invertebrates:

Evaluation

In hindsight, were the EFH conservation recommendations sent to action agency appropriate (explain)?

Were the EFH conservation recommendations properly translated into permit conditions?

Is the activity in compliance with permit specifications and conditions? If not in compliance, describe:

Did the EFH CRs sufficiently protect EFH? If so, how did the ecosystem and fishery resources respond to the project?

If EFH CRs were not adopted or effective and considering coordination with the COE and other partners, what could be done in the future to ensure protection of EFH?

List photographs taken (dots should be placed on an aerial with an arrow point in direction of camera):

Appendix 5. Recommended permit special conditions from MICCI Project 4,21,23,24 Phase 1 project report.

9.1 Conditions Applicable to Multiple Activities

1. Turbidity Barriers: Prior to the initiation of any of the work authorized by this permit the permittee shall install floating turbidity barriers with weighted skirts that extend to within 1 foot of the bottom around all work areas that are in, or adjacent to, surface waters. The turbidity barriers shall remain in place and be maintained until the authorized work has been completed and all erodible materials have been stabilized.
2. The permittee shall conduct a pre-construction meeting at a minimum of 30 days prior to commencement of construction. The permittee shall provide a minimum of a 30-day advance written notification of the pre-construction meeting, to the agencies. The permittee shall develop training modules relating to coral reef resource awareness, identifying and mapping of coral communities, and resource protection measures. The permittee shall submit the training modules to the agencies for review and approval for use during the pre-construction meeting. The permittee will be required to implement these training modules to all staff that are engaged in any aspect of this construction project. The permittee shall submit signed certifications of coral reef resource awareness training completion for each staff member within 7 days of that staff member beginning work on any aspect of this project.
3. Within 60 days prior to construction the permittee shall conduct a pre-construction survey to document the size and position of all coral colonies within the construction footprint. Within 30 days of completion of the construction, a post-construction survey shall be conducted to determine if there have been any direct or indirect impacts to corals. Both surveys will be conducted by **diver (if water depths are 100 feet or less) submersible/ROV (if depths are greater than 100 feet)** and a written report, including pictures and/or video will be submitted to the agencies within 10 days after completion of each survey. The pre-construction survey must be received by the agencies no later than 15 days prior to construction.
4. No impacts to seagrass, hard corals, or soft corals shall occur as a result of construction operations, such as, but not limited to, propeller scouring; and vessel or barge anchoring, grounding or spudding, etc. For any impacts caused by the construction activities, restoration and mitigation will be required. **(This condition is most effective when used in concert with a pre- a post-construction survey requirement as in #3 above).**
5. The permittee shall ensure that all vessels and water craft associated with construction activities maintain a minimum of **X # of feet (recommend a minimum of 1**

foot) clearance between bottom of any vessel and top of any submerged aquatic resources verified by pre-construction bathymetric and resource surveys provided to the agencies within 15 days prior to construction.

6. The permittee shall ensure that scleractinian (hard) corals of 10 centimeters (cm) or greater and soft corals of 15 cm or greater are transplanted from the areas of direct and secondary impact (i.e. indirect impact) no later than 15 days prior to construction. Corals shall be transplanted in accordance with the enclosed approved coral transplantation plan by a qualified professional. In order to be successful, the transplanted corals must maintain a survival rate of **X % of total OR X % coverage**. Qualifications for all individuals performing transplants will be submitted to the agencies for approval no later than 15 days prior to transplant activities. **(This condition is most effective when used in concert with pre-construction survey and post-construction monitoring of the transplantation sites. Also, an approved coral transplantation plan should be a requirement prior to permit issuance).**

7. The permittee shall submit the names and qualifications of all individuals who will perform any of the sampling, surveying or monitoring activities required to the agencies at least 15 days prior to performing any activity.

8. All reporting documents must contain the following information: (1) Permit Numbers; (2) Project Title (3) Dates and times of any sampling and analysis; (4) Statement describing the methods used in collection, handling, storage and analysis of the samples; (5) Map indicating the project location, sampling locations, current direction, plume configuration and the location of any dredge and discharge point(s); and (6) Statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data. Monitoring reports shall also include the following information for each sample that is taken: a) Time of day samples taken; b) Depth of water body; c) Depth of sample; d) Antecedent weather conditions; e) Tidal stage and direction of flow; f) Wind direction and velocity; and g) DGPS position.

9. In the event that additional mitigation, remediation, and/or monitoring is required, as a result of unanticipated impacts identified during monitoring or post construction surveys, the permittee shall provide a draft mitigation and monitoring plan to the agencies for review within thirty days. Mitigation activities shall be completed within one year of agency approval of the plan. **(This condition should be used in concert with a pre- and post-construction monitoring requirement as in #3 above).**

10. The permittee shall immediately alert the agencies of any impacts or accidents that may occur. The permittee shall initiate within 24 hours of any incident, the recovery and restoration of any damage to living coral in the event of unforeseen accidents. The

permittee shall correct or remove (course of action will be determined by the agencies) any structure that causes damage to coral resources within 10 days in a manner that avoids further damage to the resources. The agencies may participate and assist in this effort.

11. All vessel movement and construction activities shall take place during daylight hours only. For the purposes of this permit, daylight shall be defined as occurring from 30 minutes before sunrise to 30 minutes after sunset.

9.2 Shoreline Stabilization

12. The permittee shall establish nearshore monitoring stations/cross-shore permanent transects, extending X # of feet seaward of the equilibrium toe of fill (ETOF) a minimum of 30 days prior to construction, to monitor and identify potential effects from sediment and turbidity movement, and stress indicators, on scleractinian (stony) and soft coral species, on adjacent, deeper, and stable nearshore hardbottom communities. The permittee shall conduct surveys of nearshore hardbottom resources, fish populations and epibenthos monitoring sites, and depth of sediment, immediately prior to construction (this will be compared to baseline data to get information on natural variability), and annually for X # of years after construction, in accordance with the attached approved Construction/Post-Construction Nearshore Biological Monitoring Tasks. Reports will be submitted to the agencies within 30 days of completion of each monitoring event. **(This condition requires a Biological Monitoring Protocol to be submitted and approved prior to permit issuance).**

13. Water Quality Monitoring (Turbidity) Turbidity monitoring in the vicinity of the borrow areas and the beach nourishment sites shall be monitored during construction.

- Turbidity will be measured at background and compliance stations at the surface, mid-depth and 1 m above the bottom utilizing high resolution sensors which will give continuous data throughout the project. (More information on available sensors can be found at http://www.act-us.info/evaluation_reports.php)
- Background measurements will be taken least 300 meters upcurrent from the dredge site, clearly outside of any turbidity generated by the project.
- Compliance measurements will be taken no more than 150 meters downcurrent from the dredge site, within the densest portion of any visible turbidity plume.
- Beach Nourishment and/or Groin Construction Sites measurements will be taken including a background measurement approximately 150 meters offshore and 300 meters upcurrent from the discharge point, clearly outside of any turbidity generated by the project and a compliance measurement approximately 150 meters offshore and no more than 150 meters downcurrent from the discharge point, within the densest portion of any visible turbidity plume.

- Weekly summaries of all monitoring data shall be submitted to the agencies within one week of collection.
- The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the compliance sites are greater than 15 NTU's above the associated background turbidity levels, the agencies shall be notified and construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels.

(This condition is to be used for shoreline stabilization projects including beach renourishments and groin installations. A similar condition tailored for dredging only projects can be found in #27 below).

14. The applicant will provide underwater monitoring and video documentation of adjacent hardbottom resources, along the pipeline corridor, immediately prior to, and following, pipeline placement, and within 30 days of pipeline removal, in order to verify avoidance of impacts to any adjacent hardbottom resources. The monitoring shall record the following information: (a) general silt and sediment levels on the reefs, (b) notes on any adverse effects, which may result from sedimentation, mucous formation on corals and sponges, bleaching and mottling, morbidity etc. in accordance with the attached approved monitoring protocol. **(requires pre-approved monitoring protocol prior to permit issuance).**

15. At least 15 days prior to construction, the permittee shall provide to the agencies and the dredge contractor, a map identifying approved vessel transit corridors plotted as polygon targets to be used during transit from the borrow areas to the sand pump out facility locations. A hard copy of the map shall be submitted to the agencies and an electronic map in electronic GPS form shall be submitted to the contractor. The electronic GPS form shall be adequate enough to allow for electronic positioning, and to be incorporated with the required continuous tracking system on the dredge vessel. The permittee shall ensure that the selected vessel transit corridors are sand bottom or corridors of low habitat cover (consisting of areas with 10% coverage or less of any submerged aquatic resources). The approved vessel transit corridors shall be ground-truthed to confirm accuracy of vessel paths, to ensure that adequate vessel operating depths will be achieved, and to ensure no natural resources will be impacted. Ground truth reports shall be submitted to the agencies at least 15 days prior to construction. **(This condition should be used in concert with a buffer zone requirement as in #21 below, and/or pre- and post-construction survey requirements, see #3 above).**

16. Fill material placed on the beach shall be sand that is similar to that already existing at the beach site in both coloration and grain size. All such fill material shall be free of construction debris, rocks, or other foreign matter and shall not contain, on average greater than 10 percent fines (i.e. silt and clay) passing a Number 200 sieve and shall not

contain, on average, greater than 5 percent coarse gravel or cobbles exclusive of shell material retained by a Number 4 sieve. Suitability analysis will be submitted to the agencies for approval at least 30 days prior to construction.

17. The permittee shall ensure that precautions are taken to prevent damage from occurring to the existing reef resources as a result of cable drag, equipment drag, scour wash, or other construction activities. The permittee shall prevent scouring of benthic resources during all operations:

- Any towed vessels such as barges, scows and the like, shall be either lashed directly to the dredge or the tow vessel, with no cable in the water (e.g., by a “bridle” tow or “on the hip” of a tug), or connected to the tow vessel by floating line.
- All cables must be floated in all water depths to avoid impact to submerged aquatic resources.
- All operations will be conducted in a manner that eliminates the possibility of dragging cable or other equipment along the bottom and damaging aquatic resources.

(This condition should be used in conjunction with a pre- and post-construction monitoring requirement to confirm there are no impacts and remediation condition in case monitoring shows there are impacts, see conditions #3 and #9 above.)

9.3 Dredging

18. The permittee shall monitor the offshore hardbottom habitat, located adjacent to the borrow sites, for sedimentation, generated by the dredging operations. Amount and duration of sedimentation will be monitored, as well as stress indicators of stony and soft corals affected by the dredge operations, at designated monitoring stations located adjacent to each borrow area.

- The stations shall be monitored once per day, beginning X # of weeks prior to construction, during construction, and X # of weeks following construction in accordance with the attached approved Construction/Post-Construction Nearshore Biological Monitoring Tasks. In the event that inclement weather prevents monitoring, construction shall also cease for that time period and the event shall be recorded in the monitoring report.
- Construction activities shall cease and the agencies shall immediately be notified if sediment exceeds defined standards (more than 1.5 mm per day). If coral stress indicators exceed defined values, then histological tissue analysis of affected corals will be conducted.
- A minimum of X # of days prior to construction, stress indicators and coral stress index values must be established to monitor the viability of the coral habitat during construction. To avoid damage of submerged aquatic habitat, coral stress thresholds shall be developed.

- All reports shall be submitted to the agencies within 30 days following completion of the monitoring event.

(This condition requires submittal of an approved Biological Monitoring Protocol prior to permit issuance).

19. During construction activity, best available navigational and positioning equipment will be used which will sound an alarm notifying the dredge operator that the dredge is approaching a hardbottom location.

20. The permittee shall ensure that the contractor daily inspects the hopper dredge for any leaks or failures. The permittee will ensure that the contractor uses signal devices or alarm devices on all vessels associated with this project to ensure that leaks from the split hull mechanism do not occur. The permittee must ensure that the contractor is operating the hopper dredge in a manner that the split hull mechanism is closed completely at all times before leaving the borrow sites. There shall be no random deposits of dredge material over natural resources. **(This condition should be used in concert with a pre- and post-construction monitoring requirement as well as remediation in case of impacts, see conditions #3 and #9 above).**

21. A **X # of Feet** **(recommend 1000 foot buffer, 400 foot minimum)** buffer zone in which dredging and anchoring is prohibited shall be maintained around the adjacent hardbottom areas in the vicinity of the borrow site(s). The permittee shall ensure that the buffer zones are maintained continuously for as long as dredging occurs at the borrow site(s). **(This condition should be used in concert with pre- and post-construction monitoring requirements, especially if buffer is less than 1000 feet).**

22. All operations including the arm of the hopper dredge, etc., shall be conducted in a manner to eliminate the possibility of equipment dragging on the bottom and damaging natural resources. Before the dredge leaves any/all borrow areas, the drag-arm (hopper arm) must be completely raised out of the water at all times during transit. The permittee must provide, within 30 days prior to construction, a plan that will address what methods or preventions will be taken to avoid any operational failures. If operational failures of the drag-arm occur, the permittee shall immediately notify the agencies and work shall immediately cease until the cause of failure has been corrected. **(This condition should be used in concert with a pre- and post-construction surveys as well as remediation requirement in the event that damage of resources occurs, see conditions #3 and #9 above).**

23. The permittee shall require the dredging contractor to push his equipment into the project area versus towing when within 1.5 miles of the shoreline to avoid potential cable drags. During all dredging operations, the permittee shall require the dredging contractor to have electronic positioning equipment that continuously measures the

vertical and horizontal location of the cutterhead at all times during construction operation. The equipment shall monitor the actual location of the dredge equipment and be interfaced with the depth-monitoring device. This equipment shall provide a permanent record of the position referenced to State Plane Coordinates and NAVD 88. A final report shall be submitted to the agencies within 15 days following completion of construction. As part of the final project report, the permittee shall provide a daily record of the position of the dredge equipment, which includes the dredge area limits and the buffer zone with actual and maximum authorized dredge depths referenced to State Plane Coordinates and NAVD 88, including complete metadata. Vertical and horizontal accuracy of the positioning equipment shall also be reported. **(This condition should be used in concert with a buffer zone requirement, see condition #21 above).**

24. The permittee shall submit an Emergency Spill Response Plan for all vessels operating in association with the project authorized herein a minimum of thirty days prior to the commencement of construction. Agency approval of the emergency Spill Response Plan will be required prior to commencement of construction.

25. The permittee shall submit an Operational Storm Contingency Plan that describes the actions to be taken in response to storm events (e.g. hurricanes, high-sea conditions and/or operational failures (e.g. breaks in the dredge pipelines) a minimum of thirty days prior to the commencement of construction. Agency approval of the Operational Storm Contingency Plan will be required prior to commencement of construction.

26. The permittee shall conduct a stability analysis for the dredged material pipeline for its entire length. The permittee shall anchor or otherwise stabilize the dredge material pipeline consistent with this analysis and in such a manner as to ensure that the pipeline will remain stable in a 50-year storm event. A copy of the analysis shall be provided to the agencies at least 15 days prior to construction.

27. Water Quality Monitoring (Turbidity) Turbidity monitoring in the vicinity of the dredging areas shall be monitored during construction.

- Turbidity will be measured at background and compliance stations at the surface, mid-depth and 1 meter above the bottom utilizing high resolution sensors which will give continuous data throughout the project.
- Background measurements will be taken least 300 meters upcurrent from the dredge site, clearly outside of any turbidity generated by the project.
- Compliance measurements will be taken no more than 150 meters downcurrent from the dredge site, within the densest portion of any visible turbidity plume.
- Weekly summaries of all monitoring data shall be submitted to the agencies within one week of collection.

- The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the compliance sites are greater than 15 NTU's above the associated background turbidity levels, the permittee will immediately notify the agencies and construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. **(This condition is to be used for dredging projects. A similar condition tailored for shoreline stabilization projects can be found in #13 above).**

9.4 Port Maintenance and Expansion

28. The permittee shall establish ingress/egress corridors which avoid submerged aquatic resources and vessel exclusion zones within X # of feet (recommend a minimum of 400 feet) of any hardbottom resources. The project plans and specifications shall clearly delineate the operation and exclusion zones, and **the permittee shall provide a copy to the agencies a minimum of thirty (30) days prior to commencement of transport or disposal of spoil material. (This condition should be used in concert with a pre- and post-construction survey as in #29 below).**

29. The permittee shall perform pre-project surveys which may include multi-beam bathymetry, side scan sonar, diver reconnaissance, remotely operated vehicle investigations, and photographic and video documentation, of all hardbottom areas adjacent to the ingress/egress corridors and the Ocean Dredged Material Disposal Site (ODMDS) to confirm the presence or absence of deepwater aquatic resources. The assessments shall include quantitative and qualitative descriptions of benthic resources throughout the disposal route and adjacent to the disposal site. If the surveys document any direct or indirect impacts of the transport and disposal project have occurred remediation will be required. The pre-project surveys shall be submitted to the agencies 30 days prior to project commencement. The post-construction survey shall be submitted within 30 days following project completion. The surveys shall be conducted in accordance with the enclosed approved survey and monitoring plan. **(This condition requires that a survey and monitoring plan be approved prior to permit issuance).**

9.5 Commercial Docks and Marinas

30. The permittee shall clearly mark and buoy the exact location of the navigation routes, including approaches to the dock. The navigation routes shall be marked a minimum of 15 days prior to the commencement of the construction activities authorized by this permit. The permittee shall submit survey and photo documentation of the marked channel to the agencies at least 7 days prior to the commencement of the installation activities. **(This condition should be used in concert with a pre-construction survey as in #3 above to ensure no resources within the proposed channel as well as a buffer zone as in #5 above and a condition requiring sufficient**

depth clearance for any vessel associated with construction or use of the facility, see condition # 5 above).

31. All piles shall be installed using pile-driving techniques. High speed jetting is not an approved method of pile installation.

32. Blasting is prohibited.

33. The docks shall be constructed to fully adhere to all construction specifications found within the Dock Construction Guidelines.

9.6 Energy and Utility Lines

34. Cable deployment shall not take place during high swells or unfavorable weather conditions, including highest peak of hurricane season (mid September to mid October), during severe currents, when increased damage to corals would be expected to occur. The installation activities shall immediately cease should inclement weather or unexpected severe currents arise during deployment.

35. The permittee agrees to perform aquatic toxicity tests for any and all proposed chemical additives that may be used during construction operations a minimum of 60 days prior to the start of this project. The permittee shall prepare a report with the results of the toxicity tests, the MSDS sheets for each proposed additive, and the proposed concentrations of the additives that will be used. The permittee shall submit the information to the agencies at a minimum of 30 days prior to the start date of construction for the agencies to review and approve the additives to be used. Any additive that is not approved may not be used as part of this project.

36. The permittee agrees to position Beacon transponders on the anchors deployed within 100 feet of any existing telecommunications cables to record for any anchor movement or drag. Upon detection of any anchor movement, tension on the anchor line to that anchor will be reduced as necessary to stop the anchor movement. In addition, upon detection of anchor movement divers and/or ROV shall be dispatched within 48 hrs to investigate whether any impacts to resources have occurred, and determine what actions are necessary to avoid additional anchor movement (including possible resetting or replacement of the anchor). If impacts from anchor movement (or communication cable movement caused by anchor movement) are discovered, appropriate reports shall be made to the regulatory agencies within 7 days. **(This condition should be used in concert with a remediation requirement in the event that damage has occurred, see condition #9 above).**

37. Jet burial of the cable [i.e. use of water jets to (re)move seabed material] shall not be used at any time during deployment activities.

38. Large cable laying vessels shall remain offshore during the deployment of the cable. Only small boats of less than 3 ft draft shall be used for nearshore maneuvers during cable deployment. **(This condition should be used in concert with a minimum clearance condition as in #5 above).**

39. A three-year monitoring program shall be implemented to assess the impacts of the cable on benthic organisms in accordance with the enclosed approved benthic monitoring plan. As part of this program, four monitoring surveys shall be conducted as follows: immediately after cable installation and yearly thereafter. Monitoring reports shall be submitted to the agencies within 30 days from the date of each monitoring event. **(This condition requires an approved survey plan prior to permit issuance. This condition should be used in concert with a pre-construction monitoring plan to determine baseline conditions and a remediation condition in the event that damage to resources is documented, see conditions # 3 and #9 above).**

40. The cable shall be securely anchored to the seafloor. A survey and/or photo documentation of the anchoring system shall be submitted to the agencies within 15 days following completion of construction.

9.7 Artificial and Mitigation Reefs

41. All structures will be constructed in accordance with the attached approved engineering report which provides reasonable assurance that the structure will be stable through a 20 yr storm event. A sediment depth survey shall be conducted immediately prior to construction to ensure that the artificial reefs are placed in areas with underlying rock (for stability) and a persistent cover of sand. **(This condition requires an approved engineering report prior to permit issuance).**

42. The permittee shall deploy only the following authorized reef materials:

- Prefabricated artificial reef modules composed of steel, concrete, rock or a combination of these materials.
- Natural rock boulders and other pre-cast material, such as, culverts (inside diameter no less than 36 inches, no more than 48 inches), stormwater junction boxes, power poles (concrete or wood, not treated with creosote).
- Clean steel and concrete bridge demolition materials such as slabs or pilings with all steel reinforcement rods severed as close to the concrete surface as possible but not to extend more than 6 inches to ensure the rod will not create a fishing tackle or diver ensnaring hazard.
- Heavy gauge steel components or structures, ½" or more in thickness. Properly prepared, clean steel vessels.
- Reef materials shall be clean and free from asphalt, petroleum, other hydrocarbons and toxic residues, loose free floating material or other deleterious

substances. All artificial reef materials and/or structures will be selected, designed, constructed and deployed to create effective, stable and durable reef habitat.

43. The permittee shall deploy all reef materials within the site boundaries as defined on the enclosed permit drawings. A minimum clearance of twice the height of the structure from the top of the deployed material relative to Mean Lower Low Water (MLLW) shall be maintained at all times. Clearance shall never be less than 6-feet.

44. Any steel hull vessel which will be used as reef material shall be prepared and deployed in accordance with all applicable U. S. Coast Guard, U.S. Environmental Protection Agency, Florida Fish and Wildlife Conservation Commission, or other applicable state or federal agency regulations or policies. The vessel shall not be deployed until all necessary inspections and clearances have been obtained or waived and a stability analysis has been completed based on vessel and deployment site characteristics. The permittee shall submit the certifications and/or waivers to the agencies a minimum of 15 days prior to construction.

45. Within **X # of months** the permittee shall create **X # of acres** of artificial reef in **X # of feet** of water depths at the specified location in accordance with the attached permit drawing # **X of X**. In order to be successful the mitigation reef must achieve **X amount of lift** (determined through Uniform Mitigation Assessment Method (UMAM)) within **X amount of time**. If artificial reef construction is not completed and deemed successful within the specified time period, a time lag coefficient shall be applied to increase the mitigation ratio. **(This condition should be used in concert with a monitoring requirement as in #48 below. All parameters of the artificial reef should approximate the conditions of the impacted reef as closely as possible to ensure replacement of ecosystem functions and values).**

46. The permittee agrees that all deployed artificial reef material will maintain at least a **X # of feet** **(recommend a minimum of 100 feet)** buffer from any existing hardbottom. **(This condition should be used in concert with a pre-construction survey to document location of existing hardbottom, see condition #3 above).**

47. The artificial reef materials must be placed in shore parallel formations, which mimic the natural hardbottom found in the project area.

48. The permittee agrees to conduct monitoring of the artificial reef in accordance with the attached approved Mitigation Reef Monitoring plan. The monitoring of the artificial reef will include at a minimum:

- Establishment of baseline conditions

- Annual reporting of the reef's physical stability, and the biodiversity of fish, algae, and invertebrates (including species identification and abundance) for 5 years
- Maps will be prepared, showing the location, composition, configuration, depth, scour, extent, ephemeral nature of the reef structures.
- Data will be recorded and an annual report generated, reporting these findings to the agencies within 30 days of each monitoring event.

(This condition requires a mitigation reef monitoring plan be approved prior to permit issuance).

49. No fish attraction devices may be constructed or attached to the permitted artificial reefs or within the site boundaries.

50. In addition to the agencies listed under the agency contact list, the permittee shall also notify the National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, Rockville, Maryland, and the Department of Environmental Protection, Division of Marine Resources, Office of Fisheries Management and Assistance Services of the precise location of the reef within 30 days of placement of the reef material.

51. Within 12 months from the effective date of this permit and annually thereafter until expiration of the deployment authorization, the permittee shall submit to the agencies a spreadsheet listing the deployments that occurred within the previous 12 months and a written report which summarizes, analyzes, and draws conclusions regarding the activities or issues associated with the artificial reef locations in the past 12 months. For each deployment, the spreadsheet shall include:

- The local tracking number
- Date deployed
- Latitude and longitude
- Description and quantity of the material deployed
- Depth of water above material
- Approximate area of seafloor covered
- Results of any performance monitoring (description of fish and other biota observed)
- Any known changes in material condition (stability, durability, and location)

52. The use of explosives shall be limited to controlled burning for the purpose of creating holes in the bulkheads of the vessel, and small charges in order to create holes of about 8-inches below the water line. Use of these explosives will be limited to the interior of the vessel. **(This condition is to be used for deployment of vessels as an artificial reef).**

53. The precise planned position for the sinking of vessels shall be surveyed prior to the sinking and at least 2 marker buoys, firmly attached to the bottom, will be established to mark the forward extent and the aft extent of the vessel position. To as great an extent possible, the vessel shall be scuttled between these 2 buoys during favorable current, wind and sea conditions. The survey shall be submitted to the agencies a minimum of 15 days prior to deployment. **(This condition is to be used for deployment of vessels as an artificial reef. This condition should be used in concert with a pre and post-deployment survey as well as a buffer zone and remediation requirement should any damage to existing resources occur).**

54. No less than 15 days prior to deployment of material on an artificial reef, the permittee shall transmit by electronic mail a complete and signed "Florida Artificial Reef Materials Cargo Manifest and Pre-Deployment Notification" form, provided in Attachment **(insert attachment # or letter here)** of this permit, to the agencies to allow inspection of the proposed reef materials. Inspection is allowable at the staging area. By signing the Pre-Deployment Notification the permittee certifies that all materials are free from asphalt, petroleum, other hydrocarbons and toxic residues. The permittee shall not deploy material if notified by the agencies that the material is questionable. The material needs to be evaluated and released before deployment. Any material that is deemed unacceptable for reef material will be disposed of in an approved upland disposal site. Deployment of the material shall not occur until after the end of the 15-day inspection period. The permittee shall ensure both a copy of all required agency permits and the signed "Florida Artificial Reef Materials Cargo Manifest and Pre-Deployment Notification Form" are maintained aboard the deployment vessel at all times during loading, transit, and deployment.

55. By signing this permit, the permittee certifies and acknowledges ownership of all artificial reef materials deployed on the reef, accepts responsibility for maintenance of the artificial reef, and possesses the ability to assume liability for all damages that may arise with respect to the artificial reef.

Appendix 6. Special permit conditions considered from templates under development by FDEP, USACE and NOAA's office for Puerto Rico and the Virgin Islands.

The following comprise a list of special conditions that was considered in development of the final recommended special conditions for Phase 2. These special conditions came from the six sources below. After each special condition, a number appears in brackets. The bracketed numbers correspond to the following sources:

[1] : USACE DRAFT SPECIAL CONDITIONS, FEB. 17, 2009

[2]: RECOMMENDED MODIFICATIONS TO AGENCY COMPLIANCE AND ENFORCEMENT PROTOCOLS, SEFCRI-MICCI COMBINED PROJECT 3, 21, 23, 24, PHASE 1, AUG. 2009

[3] : SE FLA. DEP OFFICE MODEL CONDITIONS

[4] : NOAA office in Puerto Rico/U.S. Virgin Islands

[5] : USACE permit # SAJ-2008-1107

[6] : U.S. Army Corps of Engineers, Jacksonville Dist. Local Master Guide Specification (April 2006)

I. MULTIPLE PROJECT TYPES

6. Reporting address:

- a. The Permittee shall submit all reports, documentation and correspondence required by the conditions of this permit to the following address: U.S. Army Corps of Engineers, Regulatory Division, Special Projects and Enforcement Branch, Enforcement PM Address, , FL . The Permittee shall reference this permit number, SAJ- - - , on all submittals. [1]

7. Pre-construction

- a. The permittee shall conduct a pre-construction meeting at a minimum of 30 days prior to commencement of construction. The permittee shall provide a minimum of a 30-day advance written notification of the pre-construction meeting, to the agencies. The permittee shall develop training modules relating to coral reef resource awareness, identifying and mapping of coral communities, and resource protection measures. The permittee shall submit the training modules to the agencies for review and approval for use during the pre-construction meeting. The permittee will be required to implement these training modules to all staff that are engaged in any aspect of this construction project. The permittee shall submit signed certifications of coral reef resource awareness training completion for each staff member

- within 7 days of that staff member beginning work on any aspect of this project. [2]
- b. Within 60 days prior to construction the permittee shall conduct a pre-construction survey to document the size and position of all coral colonies within the construction footprint. The pre-construction survey must be received by the agencies no later than 15 days prior to construction. [2]
 - c. After selection of the contractor to perform the authorized activities and prior to the initiation of any work authorized by this permit, the permittee (or authorized agent) and the contractor shall contact Sunshine at 1-800-432-4770 to request a subaqueous locate of the [EXISTING TRANSMISSION LINES, ETC.]. At which time, [FLORIDA POWER AND LIGHT, ETC.] will locate the route of the existing facility within the project boundary. Dredging activities shall be required to remain a minimum of X-feet away from the [NAME] facility. [3]
 - d. The permittee shall be responsible for ensuring that the permit conditions are explained to all construction personnel working on the project, and for providing each contractor and subcontractor with a copy of this permit before construction begins. [3]
 - e. All watercraft associated with the construction of the permitted structure shall only operate within waters of sufficient depth (one-foot clearance from the deepest draft of the vessel to the top of submerged resources) so as to preclude bottom scouring, prop dredging, or damage to submerged resources. [3]
8. Turbidity:
- a. Turbidity barriers¹⁶⁰: Prior to the initiation of any work authorized by this permit the Permittee shall install floating turbidity barriers with weighted skirts that extend to within one foot of the bottom around all work areas that are in, adjacent to, surface waters. The turbidity barriers shall remain in place and be maintained until the authorized work has been completed and all erodible materials have been stabilized. [1] [2]
 - b. Prior to the initiation of any work authorized by this permit, floating turbidity curtains with weighted skirts that extend to within 1 foot of the bottom shall be placed around the project site.¹⁶¹ The curtains shall be maintained and shall remain in place for the duration of the project construction to ensure that turbidity levels outside the construction area do not exceed 0 NTUs above background levels. The permittee shall be responsible for ensuring that turbidity control devices are inspected daily

¹⁶⁰ Turbidity barriers are not applicable to most coral locations as turbidity barriers do not work in the open ocean.

¹⁶¹ Turbidity barriers are not applicable to most coral locations as turbidity barriers do not work in the open ocean.

and maintained in good working order so that there are no violations of state water quality standards outside of the turbidity screens.

The following measures shall be taken immediately by the permittee whenever turbidity levels within waters of the State surrounding the project site exceed turbidity levels of the surrounding Outstanding Florida Waters:

- a. Notify the DEP-Southeast District X Branch Office ERP Compliance/Enforcement Section at 561/681-6600 [FOR PALM BEACH, BROWARD, DADE] or 772/398-2806[FOR MARTIN, ST. LUCIE, OKEECHOBEE] at the time the violation is first detected.
- b. Immediately cease all work contributing to the water quality violation. Operations may not resume until the department gives authorization to do so.
- c. Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, install more turbidity containment devices, and repair any non-functional turbidity containment devices. [3]
- c. Turbidity Monitoring for Areas Not Within an Aquatic Preserve [TURBIDITY BARRIERS NOT APPLICABLE/FEASIBLE IN THE OPEN OCEAN, SO NOT OFTEN GOING TO BE RELEVANT TO CORAL PROTECTION]: Water turbidity levels shall be monitored and recorded at least every X hours during dredging operations or upon the occurrence of other circumstances that might create water quality violations on site. Samples shall be taken one foot above the bottom, mid-depth, and one-foot below the surface at monitoring stations located as follows:
 - a. Approximately 100 feet up-current of the work sites and clearly outside the influence of construction activities. (This shall serve as the natural background sample against which other turbidity readings shall be compared.)
 - b. Directly outside the turbidity curtains surrounding the work sites and within the densest portion of any visible turbidity plume. (This sample shall serve as the compliance sample.)

If at any time during construction, the turbidity level directly outside the turbidity curtains surrounding the work sites exceeds the natural background levels, the permittee or permittee's contractor shall take the following actions: (1) immediately cease the operations that cause the water quality violations; (2) notify the Department's Division of Environmental Resource Permitting at the time the violation is first detected; and (3) modify the work procedures that were responsible for the violation. [3]

- d. Turbidity Curtains and Conditions Inside Aquatic Preserves:¹⁶² Prior to the initiation of any work authorized by this permit, floating turbidity curtains with weighted skirts that extend to within one foot of the bottom shall be placed around the project site. The curtains shall be maintained and shall remain in place for the duration of the project construction to ensure that turbid discharges do not occur outside the boundaries of the floating turbidity screens. Turbidity levels outside the construction area shall not exceed 0 NTUs above ambient levels for aquatic preserves. The permittee shall be responsible for ensuring that turbidity control devices are inspected daily and maintained in good working order during all phases of construction authorized by this permit until all areas that were disturbed during construction are sufficiently stabilized to prevent turbid discharges.

The following measures shall be taken immediately by the permittee whenever turbidity levels within waters of the State surrounding the project site exceed ambient turbidity levels of the surrounding Outstanding Florida Waters:

- a. Notify the DEP-Southeast District Branch Office ERP Compliance/ Enforcement Section at 561/681-6600[FOR PALM BEACH, BROWARD, DADE] or 772/398-2806[FOR MARTIN, ST. LUCIE, OKEECHOBEE] at the time the violation is first detected.
- b. Immediately cease all work contributing to the water quality violation. Operations may not resume until the department gives authorization to do so.
- c. Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, install more turbidity containment devices, and repair any non-functional turbidity containment devices. [3]
- e. Turbidity Monitoring Reports. During construction, the permittee or permittee's contractor shall submit daily monitoring reports on a weekly basis containing the turbidity data gathered to the Department of Environmental Protection, Southeast District XBranch Office, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section, Attention: Richard Stalker, 400 North Congress Avenue, Suite 200, West Palm Beach, Florida 33401 (phone: 561/681-6643)[FOR PALM BEACH, BROWARD, DADE] or Attention: Eric Shea, 1801 SE Hillmoor Drive, Suite C-204, Port St. Lucie, Florida 34952 (phone: 772/398-2806)[FOR MARTIN, ST. LUCIE, OKEECHOBEE]. The reports shall contain the following information:

¹⁶² Turbidity barriers are not applicable to most coral locations as turbidity barriers do not work in the open ocean.

- a. permit number
- b. project name
- c. dates of sampling and analysis
- d. turbidity sampling results
- e. description of data collection methods
- f. a map indicating the sampling locations
- g. time of day profile was taken
- h. depth of water body
- i. weather conditions at times of sampling
- j. tidal stage and direction of flow
- k. wind direction and velocity
- l. water temperature

Furthermore, each monitoring report shall include a statement by the individual responsible for implementation of the sampling program attesting to the authenticity, precision, limits of detection, and accuracy of the data. [3]

- f. Turbidity Monitoring. Water turbidity levels shall be monitored and recorded at least every X hours during construction activities or upon the occurrence of other circumstances that might create water quality violations on site. Samples shall be taken one foot above the bottom, mid-depth, and one-foot below the surface at monitoring stations located as follows:
 - a. Approximately 100 feet up-current of the work sites and clearly outside the influence of construction activities. (This shall serve as the natural background sample against which other turbidity readings shall be compared.)
 - b. Directly outside the turbidity curtains surrounding the work sites and within the densest portion of any visible turbidity plume. (This sample shall serve as the compliance sample.)

If at any time during construction, the turbidity level directly outside the turbidity curtains surrounding the work sites exceeds natural background levels, the permittee or permittee's contractor shall take the following actions: (1) immediately cease the operations that cause the water quality violations; (2) notify the Department's Division of Environmental Resource Permitting at the time the violation is first detected; and (3) modify the work procedures that were responsible for the violation. [3]

9. Additional Operations Conditions

- a. The permittee shall submit an Emergency Spill Response Plan for all vessels operating in association with the project authorized herein a minimum of thirty days prior to the commencement of construction. Agency approval of the emergency Spill Response Plan will be required prior to commencement of construction. [2]

- b. The permittee shall submit an Operational Storm Contingency Plan that describes the actions to be taken in response to storm events (e.g. hurricanes, high-sea conditions and/or operational failures (e.g. breaks in the dredge pipelines)) a minimum of thirty days prior to the commencement of construction. Agency approval of the Operational Storm Contingency Plan will be required prior to commencement of construction. [2]

10. Coral protection

- a. No impacts to seagrass, hard corals, or soft corals shall occur as a result of construction operations, such as, but not limited to, propeller scouring; and vessel or barge anchoring, grounding or spudding, etc. For any impacts caused by the construction activities, restoration and mitigation will be required. (This condition is most effective when used in concert with a pre-construction survey requirement). [2]
- b. The permittee shall ensure that all vessels and water craft associated with construction activities maintain a minimum of **X # of** feet (recommend a minimum of 1 foot) clearance between bottom of any vessel and top of any submerged aquatic resources verified by pre-construction bathymetric and resource surveys provided to the agencies [AND THE DRAFT DEPTHS OF VESSELS THAT WILL BE USED DURING THE WORK] within 15 days prior to construction. [2]
- c. The permittee shall ensure that scleractinian (hard) corals of 10 centimeters (cm) or greater and soft corals of 15 cm or greater are transplanted from the areas of direct and secondary impact (i.e. indirect impact) no later than 15 days prior to construction. Corals shall be transplanted in accordance with the enclosed approved coral transplantation plan by a qualified professional. In order to be successful, the transplanted corals must maintain a survival rate of **X % of total OR X % coverage**. Qualifications for all individuals performing transplants will be submitted to the agencies for approval no later than 15 days prior to transplant activities. **(This condition is most effective when used in concert with pre-construction survey and post-construction monitoring of the transplantation sites. Also, an approved coral transplantation plan should be a requirement prior to permit issuance)** . [2]
- d. The permittee shall submit the names and qualifications of all individuals who will perform any of the sampling, surveying or monitoring activities required to the agencies at least 15 days prior to performing any activity. [2]
- e. All reporting documents must contain the following information: (1) Permit Numbers; (2) Project Title (3) Dates and times of any sampling and analysis; [4] Statement describing the methods used in collection, handling, storage and analysis of the samples; (5) Map indicating the project location,

sampling locations, current direction, plume configuration and the location of any dredge and discharge point(s); and (6) Statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data. Monitoring reports shall also include the following information for each sample that is taken: a) Time of day samples taken; b) Depth of water body; c) Depth of sample; d) Antecedent weather conditions; e) Tidal stage and direction of flow; f) Wind direction and velocity; and g) DGPS position. [2]

- f. In the event that additional mitigation, remediation, or monitoring is required, as a result of unanticipated impacts identified during monitoring or post construction surveys, the permittee shall provide a draft mitigation and monitoring plan to the agencies for review within thirty days. Mitigation activities shall be completed within one year of agency approval of the plan. **(This condition should be used in concert with a pre- and post-construction monitoring requirement).** [2]
- g. The permittee shall immediately alert the agencies of any impacts or accidents that may occur. The permittee shall initiate within 24 hours of any incident, the recovery and restoration of any damage to living coral in the event of unforeseen accidents. The permittee shall correct or remove (course of action will be determined by the agencies) any structure that causes damage to coral resources within 10 days in a manner that avoids further damage to the resources. The agencies may participate and assist in this effort. [2]
- h. All vessel movement and construction activities shall take place during daylight hours only. For the purposes of this permit, daylight shall be defined as occurring from 30 minutes before sunrise to 30 minutes after sunset. [2]

11. Endangered and Threatened Species

- a. Biological Opinion: This Corps permit does not authorize the Permittee to take an endangered species, in particular the _____. In order to legally take a listed species, the Permittee must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with “incidental take” provisions with which the Permittee must comply). The enclosed US Fish and Wildlife Service (FWS) Biological Opinion (BO) (Attachment) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with “incidental take” that is also specified in the BO. Authorization under this Corps permit is conditional upon compliance with all of the mandatory terms and conditions associated with incidental take of the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs,

would constitute an unauthorized take, and it would also constitute noncompliance with this Corps permit. The FWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.

12. Post construction:

- a. Within 30 days of completion of the construction, a post-construction survey shall be conducted to determine if there have been any direct or indirect impacts to corals. Both surveys will be conducted by diver (if water depths are 100 feet or less) submersible/ROV (if depths are greater than 100 feet) and a written report, including pictures and/or video will be submitted to the agencies within 10 days after completion of each survey. [2]

II. CABLE, LINEAR, UTILITIES PROJECTS

7. Conditions Related to Weather Conditions During Work

- a. Installation of the new cable segment shall not take place during inclement weather when increased damage to corals would be expected to occur and laying of cable shall cease should inclement weather arise during installation. [4]
- b. Cable deployment shall not take place during high swells or unfavorable weather conditions, including highest peak of hurricane season (mid September to mid October), during severe currents, when increased damage to corals would be expected to occur. The installation activities shall immediately cease should inclement weather or unexpected severe currents arise during deployment. [2]

8. Anchoring/Mooring During Work/Construction

- a. Barge and support vessels shall be required to anchor in sandy bottom. If areas of sandy bottom are not available, U-bolts marked with buoys during the cable laying operation shall be installed for moorings of vessels. The location of all anchorage areas shall be clearly marked on the project maps so that these sites can be reused should cable repair be necessary. [4]
- b. Inshore and offshore anchorage sites that are either dominated by sandy bottom or where u-bolts are installed for mooring of vessels shall be marked with buoys to facilitate navigation to these sites by repair vessels and thereby minimize impacts to EFH through the use of these anchorage areas. [4]
- c. The permittee agrees to position Beacon transponders on the anchors deployed within 100 feet of any existing telecommunications cables to record for any anchor movement or drag. Upon detection of any anchor movement, tension on the anchor line to that anchor will be reduced as necessary to stop the anchor movement. In addition, upon detection of

anchor movement divers and/or ROV shall be dispatched within 48 hrs to investigate whether any impacts to resources have occurred, and determine what actions are necessary to avoid additional anchor movement (including possible resetting or replacement of the anchor). If impacts from anchor movement (or communication cable movement caused by anchor movement) are discovered, appropriate reports shall be made to the regulatory agencies within 7 days. (This condition should be used in concert with a remediation requirement in the event that damage has occurred, see condition #9 above). [2]

- d. The Permittee shall prevent any physical damage to benthic resources by establishing ingress/egress corridors and no-anchoring zones adjacent to and over mid-water and offshore marine habitats, except those near the established and approved pipeline corridors. The Permittee shall preclude anchoring within the No-anchoring zone identified on the project drawings. All operations shall be conducted in a manner so as to eliminate the possibility of equipment dragging on the bottom and damaging natural resources. [5]

9. Operational conditions

- a. The permittee agrees to perform aquatic toxicity tests for any and all proposed chemical additives that may be used during construction operations a minimum of 60 days prior to the start of this project. The permittee shall prepare a report with the results of the toxicity tests, the MSDS sheets for each proposed additive, and the proposed concentrations of the additives that will be used. The permittee shall submit the information to the agencies at a minimum of 30 days prior to the start date of construction for the agencies to review and approve the additives to be used. Any additive that is not approved may not be used as part of this project. [2]
- b. Jet burial of the cable [i.e. use of water jets to (re)move seabed material] shall not be used at any time during deployment activities. [2]
- c. Large cable laying vessels shall remain offshore during the deployment of the cable. Only small boats of less than 3 ft draft shall be used for nearshore maneuvers during cable deployment. **(This condition should be used in concert with a minimum clearance condition).** [2]
- d. The cable shall be securely anchored to the seafloor. [2]

10. For Horizontal Directional Drilling (HDD)

- a. All HDD activities shall take place during daylight hours only. [3]
- b. The permittee shall implement the following Best Management Practices (BMPs) to minimize the potential for adverse environmental impacts during HDD activities:
 - A. Best management practices for erosion control within the staging area shall be implemented and maintained at all times during

construction of the upland entry pit and drilling operations to prevent siltation and turbid discharges in excess of State water quality standards pursuant to Rule 62-302, F.A.C. Methods shall include, but are not limited to, the use of staked hay bales, staked filter cloth, sodding, seeding, and mulching; staged construction; and the installation of turbidity screens around the immediate project site. Dewatering will require a permit from the South Florida Water Management District.

B. To provide an additional level of resource protection, the volume of bentonite in the drill string shall be monitored at all times during directional drilling operation. Should a drop in volume of bentonite occur, the following measures will be taken:

1. Immediately conduct a visual inspection of both terrestrial and subaqueous portions of the HDD corridor. Notify the DEP-Southeast District X Branch Office ERP Compliance/Enforcement Section within 2 hours of detection at 561/681-6600[FOR PALM BEACH, BROWARD, DADE] or 772/398-2806[FOR MARTIN, ST. LUCIE, OKEECHOBEE] if a frac-out is detected.
2. Should the release of drilling materials occur on land, a sediment fence shall be constructed around the site and the material shall be removed by vacuum truck.
3. Should the release of drilling materials occur, the appropriate actions shall take place in strict accordance with the attached "[NAME OF FRAC-OUT PLAN]".

C. In order to minimize the possibility of a bentonite release during punch out, the site project manager shall consider the use of water in place of bentonite during the last 30 to 50 feet of the directional bore. The HDD operator shall stop the flow of recirculated bentonite and the borehole shall be flushed with water to remove the bentonite. Once the drill string is clear of bentonite, drilling will continue using only water as the boring medium. The first monitoring report submitted to the Department will discuss if water was used during the final stages of drilling and if not, the reasons why it wasn't feasible. [3]

- c. Installation of the X-inch diameter bore shall be accomplished by horizontal directional drill. Return water shall not be discharged into adjacent surface waters and wetlands and all severed materials shall be temporarily placed in X-foot by X-foot (X ft²) self-contained upland containment pits as shown on the attached drawing, Sheet No. X of X. The spoil containment pits shall be constructed to contain all severed materials and prevent the escape of severed materials and associated effluent into adjacent surface waters and wetlands. [3]

- d. Additives to the bentonite drilling muds shall not be used without the Department's prior approval. If additives are needed, a permit modification will be required. Toxicity evaluations using marine organisms with concentrations of additives representative of those proposed for HDD boring will be required to evaluate the permit modification request. [3]
- e. PolySwell, Mica Fine, Max Gel, and Max Gel combined with Drillplex, Magma Fiber, and 2PPB Duovis may be added to the bentonite drilling muds to reduce the risk of inadvertent returns. The minimum quantity of (individual) additive necessary for the filling shall be used and the maximum quantity of (individual) additive shall not exceed one-third the (individual) additive EC50 or LC50 data in accordance with Section 62-302.200, F.A.C. The concentrations shall not exceed the cumulative EC50 if multiple products are used. Additional additives to the bentonite drilling muds other than those specifically listed above, shall not be used without the Department's prior approval. If additional additives are needed, a permit modification will be required. Toxicity evaluations using marine organisms with concentrations of additives representative of those proposed for HDD boring will be required to evaluate the permit modification request. [3]
- f. During a threat from a Hurricane, actions shall take place in strict accordance with the attached "[NAME OF PLAN]". [3]
- g. [If HDD requires splicing or pre-assembled pipestring] The pipeline shall be pre-assembled and stored on uplands adjacent to [LOCATION]. Following the completion of the HDD, the X-inch pre-assembled pipestring shall be pulled by a shallow draft barge from uplands located [LOCATION] to the excavated trenches located within [WATERBODY] as shown on the attached Sheet No. X of X. A crane equipped with a basket roller will keep the leading end of the pipe elevated above the water level while the pipestring is pulled into the water. The pipestring shall be supported by a roller assembly consisting of rollers positioned at approximately X-X foot intervals, filled with air, capped, and attached to a series of floats, positioned every X feet along the pipestring to maintain buoyancy and avoid scouring of the bay bottom and submerged resources. The initial pulling and transport of the pipestring from [LOCATION] into [WATERBODY] is restricted to high tide only, which is defined as one hour before through one hour after high tide, and during daylight hours, which is defined as occurring from 30 minutes before sunrise to 30 minutes after sunset. [3]
- h. During the HDD drilling operations, the permittee shall establish a monitoring corridor no less than 600 feet wide (300 feet on either side of construction) along the portion of the HDD bore in the vicinity of submerged aquatic resources. At a minimum, one scuba equipped

environmental inspector shall be in the water swimming routine transects back and forth from the center of the bore hole out to 300 feet on either side, twice a day, no less than 6 hours apart, during drilling in the vicinity of resources. Transects shall be a minimum of every fifty feet and sufficient to cover the entire portion of the corridor that is actively being drilled. Any indications of leaks, such as a drop in the volume of bentonite, shall be verified immediately by scuba-equipped inspectors. In the event that night time operations are required, the diver shall complete any additional transect at the end of the shift or if dawn is approaching, as light becomes available. The diver shall be equipped with suitable underwater lights so as to be able to identify any potential frac-outs. The driller's log and divers' monitoring reports shall be faxed daily to the Department of Environmental Protection. Include the following statement at the top of each page or as a cover page to the submittal: "This information is being provided in partial fulfillment of the monitoring requirements in Permit No. X." [3]

- i. Within 12 hours after each HDD punch out, the permittee shall perform a visual inspection of the seafloor above the subaqueous portions of the HDD corridor to inspect for bentonite releases or frac-outs. Within 30 days of each HDD punch out (the Department must be notified immediately if there is a frac-out), the permittee shall submit a written summary to the Department of Environmental Protection, Southeast District X Branch Office, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section. The permittee shall include the following information in the summary:
 - A. A timeline of the individual casing installations.
 - B. Any complications encountered during casing installations.
 - C. Results of the casing corridor dive inspections.
 - D. Details of any bentonite clean-up operation.
 - E. Discussion of possible causes of bentonite discharges (frac-outs).
 - F. Include the following statement at the top of each page or as a cover page to the submittal: "This information is being provided in partial fulfillment of the monitoring requirements in Permit No. X." [3]
- j. Within 48 hours following completion of the final pipestring transport operation, divers trained in the identification of seagrass shall conduct a post-pipestring transport visual inspection of the seafloor along the pipestring transport corridor as depicted on **[reference to appropriate diagram]**. If damage to seagrass occurs from the pipestring transport or associated vessels, divers will immediately flag, take GPS coordinates, and log the depth and date of the impacts. The permittee shall contact the FDEP immediately after the post-pipestring transport inspection at 561/681-

6600[FOR PALM BEACH, BROWARD, DADE] or 772/398-2806[FOR MARTIN, ST. LUCIE, OKEECHOBEE]to report the initial findings, including whether any impacts occurred. Within 30 days of performing the post-pipestring transport benthic survey, the permittee shall submit a written summary to the Department of Environmental Protection, Southeast District Branch Office, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section, Attention: Richard Stalker, 400 North Congress Avenue, Suite 200, West Palm Beach, Florida 33401 (phone: 561/681-6643)[FOR PALM BEACH, BROWARD, DADE] or Attention: Eric Shea, 1801 SE Hillmoor Drive, Suite C-204, Port St. Lucie, Florida 34952 (phone: 772/398-2806)[FOR MARTIN, ST. LUCIE, OKEECHOBEE]. Failure to submit reports in a timely manner constitutes grounds for revocation of the permit. The permittee shall include the following information in the survey:

- A. Time, date, and environmental conditions of post-pipestring transport benthic survey.
- B. Any complications encountered during pipestring transport operations.
- C. Results of the visual inspection along the pipestring transport corridor.
- D. Details of any observed impacts, including GPS coordinates and photographs.
- E. Discussion of possible causes of any observed impacts.
- F. Contingency mitigation plans to offset any observed resource impacts.
- G. Include the following statement at the top of each page or as a cover page to the submittal: "This information is being provided in partial fulfillment of the monitoring requirements in Permit No. X." [3]

11. Monitoring

- a. The new cable site and anchorage areas shall be monitored immediately following installation and again on a quarterly basis over a one-year period. The cable shall be moved off corals and sponges and any fragmented or dislodged corals shall be reattached to the substrate. [4]
- b. Should monitoring reveal that cable movement is resulting in additional damage to corals, the cable shall be anchored to the substrate in areas where abrasion and breakage are observed. Any fragmented or dislodged corals shall be reattached to the substrate. [4]
- c. A survey and/or photo documentation of the anchoring system shall be submitted to the agencies within 15 days following completion of construction. [2]

12. Mitigation

- a. A detailed mitigation and restoration plan shall be developed in cooperation with NMFS should damage to benthic communities resulting from cable installation and anchorage of repair vessels be observed or where monitoring reveals that natural recovery of damaged areas is not occurring. [4]

III. BEACH FILL and NOURISHMENT PROJECTS

8. Anchoring/Mooring/Transit/Operation

- a. The Permittee shall ensure anchor placement locations of the dredge are recorded with a GPS unit for impact evaluation. [5]
- b. At least 15 days prior to construction, the permittee shall provide to the agencies and the dredge contractor, a map identifying approved vessel transit corridors plotted as polygon targets to be used during transit from the borrow areas to the sand pump out facility locations. A hard copy of the map shall be submitted to the agencies and an electronic map in electronic GPS form shall be submitted to the contractor. The electronic GPS form shall be adequate enough to allow for electronic positioning, and to be incorporated with the required continuous tracking system on the dredge vessel. The permittee shall ensure that the selected vessel transit corridors are sand bottom or corridors of low habitat cover (consisting of areas with 10% coverage or less of any submerged aquatic resources). The approved vessel transit corridors shall be ground-truthed to confirm accuracy of vessel paths, to ensure that adequate vessel operating depths will be achieved, and to ensure no natural resources will be impacted. Ground truth reports shall be submitted to the agencies at least 15 days prior to construction. **(This condition should be used in concert with a buffer zone requirement and/or pre- and post-construction survey requirements).** [2]
- c. The permittee shall conduct a stability analysis for the dredged material pipeline for its entire length. The permittee shall anchor or otherwise stabilize the dredge material pipeline consistent with this analysis and in such a manner as to ensure that the pipeline will remain stable in a 50-year storm event. A copy of the analysis shall be provided to the agencies at least 15 days prior to construction. [2]

9. Turbidity

- a. Prior to the initiation of any work authorized by this permit the Permittee shall install floating turbidity barriers with weighted skirts that extend to within one foot of the bottom around all work areas that are in, adjacent to, surface waters. The turbidity barriers shall remain in place and be maintained until the authorized work has been completed and all erodible materials have been stabilized. Geotubes will be used only if conditions at the fill site are not sufficient to provide a base for sand accumulation from the

pipings. In such case, the geotubes will be used along the southern 300-ft of beach to build a dike that sand may accumulate behind. [5]

- b. Turbidity will be monitored at the borrow site and the fill site. Turbidity at the borrow site location will be monitored 150 meters up current and down current and will not exceed background conditions. If turbidity exceeds background conditions dredging activities will cease until turbidity has settled. Turbidity at the nourishment site will be monitored 10 meters offshore and 150 meters down current from the point of discharge. Turbidity will not exceed 29 Nephelometric Turbidity Units (NTU). If turbidity levels exceed 29 NTU, nourishment activities will cease until levels return to background values. [5]
- c. [The Contractor shall conduct his operations in a manner to minimize turbidity[.] [and shall conform to all water quality standards as prescribed by [Chapter 62-302, State of Florida, Department of Environmental Protection (FDEP). FDEP surface water quality standards can be obtained from the following web sites:
<http://www.dep.state.fl.us/ogc/documents/rules/shared/62-302.pdf> &
<http://www.dep.state.fl.us/ogc/documents/rules/shared/62.302t.pdf>.]
[the Puerto Rico Water Quality Standards Regulation of the Puerto Rico Environmental Quality Board.]] [The Contractor shall conduct his operations in a manner to minimize turbidity. Refer to Section 57 25 TURBIDITY AND DISPOSAL MONITORING for further instructions.] [6]

10. Sand

- a. Fill material placed on the beach shall be sand that is similar to that already existing at the beach site in both coloration and grain size. All such fill material shall be free of construction debris, rocks, or other foreign matter and shall not contain, on average greater than 10 percent fines (i.e. silt and clay) passing a Number 200 sieve and shall not contain, on average, greater than 5 percent coarse gravel or cobbles exclusive of shell material retained by a Number 4 sieve. Suitability analysis will be submitted to the agencies for approval at least 30 days prior to construction. [2]

11. As-built certification

- a. Within 60 days of completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, the Permittee shall submit as-built drawings of the authorized work and a completed As-Built Certification Form (Attachment 4) to the Corps. The drawings shall be signed and sealed by a registered professional engineer and include the following:
 - i. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings. The drawing should show all "earth disturbance," including any aquatic

resource impacts, water management structures, and any on-site mitigation areas.

- ii. List any deviations between the work authorized by this permit and the work as constructed. In the event that the work deviates, in any manner, from the authorized work, describe on the As-Built Certification Form the deviations between the work authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings any deviations that have been listed. Please note that the depiction and/or description of any deviations on the drawings and/or As-Built Certification Form does not constitute approval of any deviations by the U.S. Army Corps of Engineers.
- iii. The Department of the Army Permit number
- iv. Include pre- and post-construction aerial photographs of the project site, if available. [5]

12. Specific coral and coral habitat protection provisions

- a. The Permittee shall prevent any physical damage to benthic resources by establishing ingress/egress corridors and no-anchoring zones adjacent to and over mid-water and offshore marine habitats, except those near the established and approved pipeline corridors. The Permittee shall preclude anchoring within the No-anchoring zone identified on the project drawings. All operations shall be conducted in a manner so as to eliminate the possibility of equipment dragging on the bottom and damaging natural resources. [5]
- b. Existing hardground/reef areas within the Contractor's work area will be so designated on the contract drawings and precaution will be taken to preserve these resources as they existed prior to construction. The Contractor shall install all protection for these resources so designated on the drawings and shall be responsible for their preservation during this contract. Pipelines will be placed only in approved areas and anchoring will be permitted in sandy areas only. Pipeline will be monitored for leaks. Any leaks that develop shall be repaired immediately, especially over hardgrounds/reefs, and the pumpout operations shall be shutdown until repairs are completed. [6]
- c. The permittee shall ensure that precautions are taken to prevent damage from occurring to the existing reef resources as a result of cable drag, equipment drag, scour wash, or other construction activities. The permittee shall prevent scouring of benthic resources during all operations:
 - Any towed vessels such as barges, scows and the like, shall be either lashed directly to the dredge or the tow vessel, with no cable in the water (e.g., by a "bridle" tow or "on the hip" of a tug), or connected to the tow vessel by floating line.

- All cables must be floated in all water depths to avoid impact to submerged aquatic resources.
- All operations will be conducted in a manner that eliminates the possibility of dragging cable or other equipment along the bottom and damaging aquatic resources.

(This condition should be used in conjunction with a pre- and post-construction monitoring requirement to confirm there are no impacts and remediation condition in case monitoring shows there are impacts.) [2]

13. Monitoring

- a. The Permittee shall adhere to the attached _____ Monitoring Plan (Attachment 8). [5] [AT MINIMUM, MONITORING DURATION, SCHEDULE, AND REPORTING REQUIREMENTS SHOULD BE INCLUDED AS SPECIAL CONDITIONS]
- b. The permittee shall establish nearshore monitoring stations/cross-shore permanent transects, extending X # of feet seaward of the equilibrium toe of fill (ETOF) a minimum of 30 days prior to construction, to monitor and identify potential effects from sediment and turbidity movement, and stress indicators, on scleractinian (stony) and soft coral species, on adjacent, deeper, and stable nearshore hardbottom communities. The permittee shall conduct surveys of nearshore hardbottom resources, fish populations and epibenthos monitoring sites, and depth of sediment, immediately prior to construction (this will be compared to baseline data to get information on natural variability), and annually for X # of years after construction, in accordance with the attached approved Construction/Post-Construction Nearshore Biological Monitoring Tasks. Reports will be submitted to the agencies within 30 days of completion of each monitoring event. **(This condition requires a Biological Monitoring Protocol to be submitted and approved prior to permit issuance).** [2]
- c. Water Quality Monitoring (Turbidity) Turbidity monitoring in the vicinity of the borrow areas and the beach nourishment sites shall be monitored during construction.
 - Turbidity will be measured at background and compliance stations at the surface, mid-depth and 1 m above the bottom utilizing high resolution sensors which will give continuous data throughout the project. (More information on available sensors can be found at http://www.act-us.info/evaluation_reports.php)
 - Background measurements will be taken least 300 meters upcurrent from the dredge site, clearly outside of any turbidity generated by the project.
 - Compliance measurements will be taken no more than 150 meters downcurrent from the dredge site, within the densest portion of any visible turbidity plume.

- Beach Nourishment and/or Groin Construction Sites measurements will be taken including a background measurement approximately 150 meters offshore and 300 meters upcurrent from the discharge point, clearly outside of any turbidity generated by the project and a compliance measurement approximately 150 meters offshore and no more than 150 meters downcurrent from the discharge point, within the densest portion of any visible turbidity plume.
 - Weekly summaries of all monitoring data shall be submitted to the agencies within one week of collection.
 - The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the compliance sites are greater than 15 NTU's above the associated background turbidity levels, the agencies shall be notified and construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels.¹⁶³ [2]
- d. The applicant will provide underwater monitoring and video documentation of adjacent hardbottom resources, along the pipeline corridor, immediately prior to, and following, pipeline placement, and within 30 days of pipeline removal, in order to verify avoidance of impacts to any adjacent hardbottom resources. The monitoring shall record the following information: (a) general silt and sediment levels on the reefs, (b) notes on any adverse effects, which may result from sedimentation, mucous formation on corals and sponges, bleaching and mottling, morbidity etc. in accordance with the attached approved monitoring protocol. [2]

IV. DREDGING OPERATIONS

4. Information/recording and operational requirements
 - a. During construction activity, best available navigational and positioning equipment will be used which will sound an alarm notifying the dredge operator that the dredge is approaching a hardbottom location. [2]
 - b. Recording Charts for Hopper Dredge(s): All hopper dredge(s) shall be equipped with recording devices for each drag head that capture real time, drag head elevation, slurry density, and at least two of the following: Pump(s) slurry velocity measured at the output side, pump(s) vacuum, and/or pump(s) RPM. The Contractor shall record continuous real time positioning of the dredge, by plot or electronic means, during the entire dredging cycle including dredging area and disposal area. Dredge location

¹⁶³ This condition is to be used for shoreline stabilization projects including beach renourishments and groin installations. A similar condition tailored for dredging only projects is located in the section on dredging.

accuracy shall meet the requirements of the latest version of COE EM 1110-1-1003. A copy of the EM can be downloaded from the following web site: <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em.htm>. The recording system shall be capable of capturing data at variable intervals but with a frequency of not less than every 60 seconds. All data shall be time correlated to a 24 hour clock and the recording system shall include a method of daily evaluation of the data collected. Data shall be furnished to the Contracting Officer for each day's operation on a daily basis. A written plan of the method the Contractor intends to use in order to satisfy these requirements shall be included with the Contractor's Quality Control Plan. [6]

- c. The permittee shall ensure that the contractor daily inspects the hopper dredge for any leaks or failures. The permittee will ensure that the contractor uses signal devices or alarm devices on all vessels associated with this project to ensure that leaks from the split hull mechanism do not occur. The permittee must ensure that the contractor is operating the hopper dredge in a manner that the split hull mechanism is closed completely at all times before leaving the borrow sites. There shall be no random deposits of dredge material over natural resources. **(This condition should be used in concert with a pre- and post-construction monitoring requirement as well as remediation in case of impacts).** [2]
- d. All operations including the arm of the hopper dredge, etc., shall be conducted in a manner to eliminate the possibility of equipment dragging on the bottom and damaging natural resources. Before the dredge leaves any/all borrow areas, the drag-arm (hopper arm) must be completely raised out of the water at all times during transit. The permittee must provide, within 30 days prior to construction, a plan that will address what methods or preventions will be taken to avoid any operational failures. If operational failures of the drag-arm occur, the permittee shall immediately notify the agencies and work shall immediately cease until the cause of failure has been corrected. **(This condition should be used in concert with a pre- and post-construction surveys as well as remediation requirement in the event that damage of resources occurs).** [2]
- e. The permittee shall require the dredging contractor to push his equipment into the project area versus towing when within 1.5 miles of the shoreline to avoid potential cable drags. During all dredging operations, the permittee shall require the dredging contractor to have electronic positioning equipment that continuously measures the vertical and horizontal location of the cutterhead at all times during construction operation. The equipment shall monitor the actual location of the dredge equipment and be interfaced with the depth-monitoring device. This equipment shall provide a permanent record of the position referenced to State Plane Coordinates and

NAVD 88. A final report shall be submitted to the agencies within 15 days following completion of construction. As part of the final project report, the permittee shall provide a daily record of the position of the dredge equipment, which includes the dredge area limits and the buffer zone with actual and maximum authorized dredge depths referenced to State Plane Coordinates and NAVD 88, including complete metadata. Vertical and horizontal accuracy of the positioning equipment shall also be reported. **(This condition should be used in concert with a buffer zone requirement).** [2]

- f. One week prior to the commencement of construction, the permittee (or authorized agent) and the contractor shall provide Material Safety Data Sheets and toxicity testing results for the polymers proposed to be used to drop the solids out of the dredged spoil material. This information shall be sent and approved by the Department of Environmental Protection, Southeast District XBranch Office, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section, Attention: Richard Stalker, 400 North Congress Avenue, Suite 200, West Palm Beach, Florida 33401 (phone: 561/681-6643)[FOR PALM BEACH, BROWARD, DADE] or Attention: Eric Shea, 1801 SE Hillmoor Drive, Suite C-204, Port St. Lucie, Florida 34952 (phone: 772/398-2806)[FOR MARTIN, ST. LUCIE, OKEECHOBEE]. [3]
- g. The floating pipeline used to transport the dredged material to the [SITE] shall be inspected twice daily by the selected contractor in order to ensure there are no leaks discharging material into surface waters of the State. At the first sign of any leaks, the permittee shall immediately contact the Department and cease all operations until repairs have been made. [3]

5. Buffer zones

- a. A [X # of Feet] (**recommend 1000 foot buffer, 400 foot minimum**) buffer zone in which dredging and anchoring is prohibited shall be maintained around the adjacent hardbottom areas in the vicinity of the borrow site(s). The permittee shall ensure that the buffer zones are maintained continuously for as long as dredging occurs at the borrow site(s). **(This condition should be used in concert with pre- and post-construction monitoring requirements, especially if buffer is less than 1000 feet).** [2]

6. Monitoring

- a. The permittee shall monitor the offshore hardbottom habitat, located adjacent to the borrow sites, for sedimentation, generated by the dredging operations. Amount and duration of sedimentation will be monitored, as well as stress indicators of stony and soft corals affected by the dredge operations, at designated monitoring stations located adjacent to each borrow area.

- The stations shall be monitored once per day, beginning **X #** of weeks prior to construction, during construction, and **X #** of weeks following construction in accordance with the attached approved Construction/Post-Construction Nearshore Biological Monitoring Tasks. In the event that inclement weather prevents monitoring, construction shall also cease for that time period and the event shall be recorded in the monitoring report.
 - Construction activities shall cease and the agencies shall immediately be notified if sediment exceeds defined standards (more than 1.5 mm per day). If coral stress indicators exceed defined values, then histological tissue analysis of affected corals will be conducted.
 - A minimum of **X #** of days prior to construction, stress indicators and coral stress index values must be established to monitor the viability of the coral habitat during construction. To avoid damage of submerged aquatic habitat, coral stress thresholds shall be developed.
 - All reports shall be submitted to the agencies within 30 days following completion of the monitoring event.
 - **(This condition requires submittal of an approved Biological Monitoring Protocol prior to permit issuance). [2]**
- b. Water Quality Monitoring (Turbidity) Turbidity monitoring in the vicinity of the dredging areas shall be monitored during construction.
- Turbidity will be measured at background and compliance stations at the surface, mid-depth and 1 meter above the bottom utilizing high resolution sensors which will give continuous data throughout the project.
 - Background measurements will be taken least 300 meters upcurrent from the dredge site, clearly outside of any turbidity generated by the project.
 - Compliance measurements will be taken no more than 150 meters downcurrent from the dredge site, within the densest portion of any visible turbidity plume.
 - Weekly summaries of all monitoring data shall be submitted to the agencies within one week of collection.
 - The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the compliance sites are greater than 15 NTU's above the associated background turbidity levels, the permittee will immediately notify the agencies and construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. [2]

V. ARTIFICIAL REEF PROJECTS

5. Agency Notification Prior to Work:

- a. The Permittee shall provide to the Corps, NOAA and U.S.C.G written notification of the planned deployment start date at least two weeks prior to the initial deployment on the authorized artificial reef site. [1]
- b. Pre-Deployment Notification: No less than 14 days prior to deployment of material on an artificial reef, the Permittee shall transmit by electronic mail ("email") a complete and signed "Florida Artificial Reef Materials Cargo Manifest and Pre- Deployment Notification" form, provided in Attachment of this permit, to the Corps and FWC to allow inspection of the proposed reef materials as deemed necessary by the agencies. Inspection is allowable at the staging area. By signing the Pre-Deployment Notification the Permittee certifies that all materials are free from asphalt, petroleum, other hydrocarbons and toxic residues. The Permittee shall not deploy material if notified by the Corps or FWC that the material is questionable. The material needs to be evaluated and released for deployment. Any material that is deemed unacceptable for reef material will be disposed in an approved upland disposal site. Deployment of the material shall not occur until after the end of the 14-day inspection period. The Permittee shall ensure both a copy of the Corps permit and the signed "Florida Artificial Reef Materials Cargo Manifest and Pre-Deployment Notification form" are maintained aboard the deployment vessel at all times during loading, transit, and deployment. [1]
- c. By signing this permit, the permittee certifies and acknowledges ownership of all artificial reef materials deployed on the reef, accepts responsibility for maintenance of the artificial reef, and possesses the ability to assume liability for all damages that may arise with respect to the artificial reef. [2]

6. Operational/Design

- a. All structures will be constructed in accordance with the attached approved engineering report which provides reasonable assurance that the structure will be stable through a 20 yr storm event. A sediment depth survey shall be conducted immediately prior to construction to ensure that the artificial reefs are placed in areas with underlying rock (for stability) and a persistent cover of sand. **(This condition requires an approved engineering report prior to permit issuance).** [2]
- b. The permittee shall deploy only the following authorized reef materials:
 - Prefabricated artificial reef modules composed of steel, concrete, rock or a combination of these materials.
 - Natural rock boulders and other pre-cast material, such as, culverts (inside diameter no less than 36 inches, no more than 48 inches), stormwater junction boxes, power poles (concrete or wood, not treated with creosote).

- Clean steel and concrete bridge demolition materials such as slabs or pilings with all steel reinforcement rods severed as close to the concrete surface as possible but not to extend more than 6 inches to ensure the rod will not create a fishing tackle or diver ensnaring hazard.
 - Heavy gauge steel components or structures, 1/2" or more in thickness. Properly prepared, clean steel vessels.
 - Reef materials shall be clean and free from asphalt, petroleum, other hydrocarbons and toxic residues, loose free floating material or other deleterious substances. All artificial reef materials and/or structures will be selected, designed, constructed and deployed to create effective, stable and durable reef habitat. [2]
- c. The permittee shall deploy all reef materials within the site boundaries as defined on the enclosed permit drawings. A minimum clearance of twice the height of the structure from the top of the deployed material relative to Mean Lower Low Water (MLLW) shall be maintained at all times. Clearance shall never be less than 6-feet. [2]
- d. Any steel hull vessel which will be used as reef material shall be prepared and deployed in accordance with all applicable U. S. Coast Guard, U.S. Environmental Protection Agency, Florida Fish and Wildlife Conservation Commission, or other applicable state or federal agency regulations or policies. The vessel shall not be deployed until all necessary inspections and clearances have been obtained or waived and a stability analysis has been completed based on vessel and deployment site characteristics. The permittee shall submit the certifications and/or waivers to the agencies a minimum of 15 days prior to construction.
- e. Within X # of months the permittee shall create X # of acres of artificial reef in X # of feet of water depths at the specified location in accordance with the attached permit drawing # X of X. In order to be successful the mitigation reef must achieve X amount of lift (determined through Uniform Mitigation Assessment Method (UMAM)) within X amount of time. If artificial reef construction is not completed and deemed successful within the specified time period, a time lag coefficient shall be applied to increase the mitigation ratio. **(This condition should be used in concert with a monitoring requirement. All parameters of the artificial reef should approximate the conditions of the impacted reef as closely as possible to ensure replacement of ecosystem functions and values).** [2]
- f. The artificial reef materials must be placed in shore parallel formations, which mimic the natural hardbottom found in the project area. [2]
- g. No fish attraction devices may be constructed or attached to the permitted artificial reefs or within the site boundaries. [2]

- h. Within 12 months from the effective date of this permit and annually thereafter until expiration of the deployment authorization, the permittee shall submit to the agencies a spreadsheet listing the deployments that occurred within the previous 12 months and a written report which summarizes, analyzes, and draws conclusions regarding the activities or issues associated with the artificial reef locations in the past 12 months. For each deployment, the spreadsheet shall include:
 - The local tracking number
 - Date deployed
 - Latitude and longitude
 - Description and quantity of the material deployed
 - Depth of water above material
 - Approximate area of seafloor covered
 - Results of any performance monitoring (description of fish and other biota observed)
 - Any known changes in material condition (stability, durability, and location) [2]
 - i. The use of explosives shall be limited to controlled burning for the purpose of creating holes in the bulkheads of the vessel, and small charges in order to create holes of about 8-inches below the water line. Use of these explosives will be limited to the interior of the vessel. **(This condition is to be used for deployment of vessels as an artificial reef).** [2]
 - j. The precise planned position for the sinking of vessels shall be surveyed prior to the sinking and at least 2 marker buoys, firmly attached to the bottom, will be established to mark the forward extent and the aft extent of the vessel position. To as great an extent possible, the vessel shall be scuttled between these 2 buoys during favorable current, wind and sea conditions. The survey shall be submitted to the agencies a minimum of 15 days prior to deployment. **(This condition is to be used for deployment of vessels as an artificial reef. This condition should be used in concert with a pre and post-deployment survey as well as a buffer zone and remediation requirement should any damage to existing resources occur).** [2]
7. Protection of Existing Resources:
- a. The Permittee shall not deploy artificial reef materials until an assessment of the bottom conditions has been accomplished by diver, submersible video camera, fathometer, depth/bottom sounder (e.g. "fish finder"), or side-scan sonar. The inspection of the deployment area must occur immediately prior to deployment but no more than one year prior to deployment. The Permittee shall maintain a deployment buffer of at least 200 feet from any submerged beds of sea grasses, coral reefs, live bottom, areas supporting growth of sponges, sea fans, soft corals, and other sessile

macroinvertebrates generally associated with rock outcrops, oyster reefs, scallop beds, clam beds, or areas where there are unique or unusual concentrations of bottom dwelling marine organisms. If, during the inspection, evidence is observed of cultural/archaeological resources, such as sunken vessels, ballast, historic refuse piles, or careenage areas the Corps will be notified by the Permittee. The Permittee shall maintain a record of the information gained during the inspection such that it can be provided upon request to the Corps. [1]

- b. The permittee agrees that all deployed artificial reef material will maintain at least **[X # of feet] (recommend a minimum of 100 feet)** buffer from any existing hardbottom. **(This condition should be used in concert with a pre-construction survey to document location of existing hardbottom).** [2]

8. Post-Construction

- a. Post-Deployment Placement Report/As-Built Drawing: No less than 30 days after deployment at the reef site, the Permittee shall transmit by email to the Corps and FWC a complete and signed "Florida Artificial Reef Materials Placement Report and Post- Deployment Notification" form provided in Attachment x of this permit. Please note, the Corps requires the latitude and longitude to be accurate within 5 meters horizontal distance on the postdeployment report. Attached to the report, an as-built drawing that contains the approximate deployment configurations and the height of the material after placement. Depth shall be verified utilizing fathometer, depth sounder, or similar device accurate to within 1 meter. Also, include information on the condition of the material at the time of deployment. The report and drawing shall be limited to a few pages per deployment. Representative photographs and/or video, if available, are encouraged to be submitted. [1]
- b. In addition to the agencies listed under the agency contact list, the permittee shall also notify the National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, Rockville, Maryland, and the Department of Environmental Protection, Division of Marine Resources, Office of Fisheries Management and Assistance Services of the precise location of the reef within 30 days of placement of the reef material. [2]

VI. PORT MAINTENANCE AND EXPANSION

- 1. The permittee shall establish ingress/egress corridors which avoid submerged aquatic resources and vessel exclusion zones within X # of feet (recommend a minimum of 400 feet) of any hardbottom resources. The project plans and specifications shall clearly delineate the operation and exclusion zones, and the permittee shall provide a copy to the agencies a minimum of thirty (30) days prior

- to commencement of transport or disposal of spoil material. (**This condition should be used in concert with a pre- and post-construction survey**). [2]
2. The permittee shall perform pre-project surveys which may include multi-beam bathymetry, side scan sonar, diver reconnaissance, remotely operated vehicle investigations, and photographic and video documentation, of all hardbottom areas adjacent to the ingress/egress corridors and the Ocean Dredged Material Disposal Site (ODMDS) to confirm the presence or absence of deepwater aquatic resources. The assessments shall include quantitative and qualitative descriptions of benthic resources throughout the disposal route and adjacent to the disposal site. If the surveys document any direct or indirect impacts of the transport and disposal project have occurred remediation will be required. The pre-project surveys shall be submitted to the agencies 30 days prior to project commencement. The post-construction survey shall be submitted within 30 days following project completion. The surveys shall be conducted in accordance with the enclosed approved survey and monitoring plan. (**This condition requires that a survey and monitoring plan be approved prior to permit issuance**). [2]
 3. Blasting is prohibited. [2]

VII. COMMERCIAL DOCKS AND MARINAS

8. The permittee shall clearly mark and buoy the exact location of the navigation routes, including approaches to the dock. The navigation routes shall be marked a minimum of 15 days prior to the commencement of the construction activities authorized by this permit. The permittee shall submit survey and photo documentation of the marked channel to the agencies at least 7 days prior to the commencement of the installation activities. (**This condition should be used in concert with a pre-construction survey to ensure no resources within the proposed channel as well as a buffer zone and a condition requiring sufficient depth clearance for any vessel associated with construction or use of the facility**). [2]
9. All piles shall be installed using pile-driving techniques. High speed jetting is not an approved method of pile installation. [2]
10. The docks shall be constructed to fully adhere to all construction specifications found within the Dock Construction Guidelines. [2]
11. All new pilings used in the construction of the dock shall be concrete. [3]
12. The Lessee shall provide and make available to all vessels utilizing the docking facility operational and well maintained sewage pumpout facilities acceptable to the State of Florida Department of Environmental Protection or local government, whichever entity applies the more stringent criteria. All sewage pump-out devices shall be connected to an authorized sewage treatment system. The permittee shall ensure that personnel, who have been trained to operate the sewage pump-out facilities, are available to assist boaters in operating the facilities during standard

- business hours (at a minimum) for the life of the facility. The sewage pump-out facility shall be in working order prior to any slip occupancy and be maintained in accordance with the requirements of this condition for the life of the facility. [3]
13. Sewage pump-out facilities shall be installed at the locations shown on the attached permit drawing, Sheet No. X of X. All sewage pump-out devices shall be connected to an authorized sewage treatment system. The permittee shall ensure that personnel, who have been trained to operate the sewage pump-out facilities, are available to assist boaters in operating the facilities during standard business hours (at a minimum) for the life of the facility. The sewage pump-out facility shall be in working order prior to any slip occupancy and be maintained in accordance with the requirements of this condition for the life of the facility. [3]
14. Fueling facilities shall be installed only at locations shown on the attached permit drawing, Sheet No. X of X. The fuel spill contingency plan included as "Attachment A" shall govern the operation of fueling facilities and the procedures to be followed in the event of a spill. The Department shall be notified whenever the clean up company changes and shall be provided with the name, address, and telephone number of the new company within 14 days of the change being made. The recommended fuel spill response equipment referenced in Attachment A shall be stored at the site throughout the life of the facility. The fuel spill response equipment shall be maintained in working condition and replaced as necessary for the life of the facility. The fuel spill contingency plan and requirements for its implementation shall be adhered to for the life of the facility. [2]

Appendix 7. Record of public meeting, Feb. 1, 2010, West Palm Beach, Florida.

**Southeast Florida Coral Reef Initiative (SEFCRI)
Maritime Industry and Coastal Construction Impacts (MICCI) Workgroup
Combined Project 4, 21, 23, 24**

Record of Public Meeting
Monday, February 1st, 2010, 1 - 4pm
FDEP Southeast District 2nd Floor Conference Room
West Palm Beach, Florida

Meeting Attendees:

Joanna Walczak	FDEP, Coral Reef Conservation Program
Jocelyn Karazsia	NMFS, Habitat Conservation Office
Christina Macon	FDEP, Southeast District
Cynthia Lott	FDEP, Southeast District
Linda Knoeck	USACE
Kelly Logan	NMFS, Office of Protected Resources
Jennifer Smith	FDEP, Southeast District
Todd McCabe	FDEP, Southeast District
Melissa Gil	FDEP, Southeast District
Jason Andreotta	FDEP, Southeast District
Benny Luedike	FDEP, Southeast District
Thomas Ruppert	UF, School of Law
Ken Lindeman	FIT, Dept. of Marine & Environmental Systems
Haiyun Yu	FIT, Dept. of Marine & Environmental Systems

Introduction

Joanna Walczak introduced the meeting by describing the broad DEP SEFCRI program and the four work groups within. She then presented slides outlining rules of engagement for the meeting. She then provided instructions regarding public comments that would occur at the end of the meeting.

Dr. Lindeman summarized the overall SEFCRI MICCI Project 4, 21, 23, 24. He noted that the project was developed by a project team within the MICCI workgroup that included representatives from USACE, DEP, and NMFS. The project was ambitious and all felt that there is an opportunity to develop solid recommendations to improving coral regulatory compliance and enforcement. He emphasized that the goal is to talk with, not at, the attendees. Internal feedback on improving the system is absolutely

essential to product success. He noted that this is Phase Two of the project and that Phase One was completed by Kelly Logan in 2009, and that all were pleased they had a solid report from her to build upon.

Lindeman then went through slides that describe tasks 2 through 6 of Phase Two of the project. He focused on deliverables and timing of each task, emphasizing the need for agency support on feedback. He also used a slide to itemize other projects within SEEF-CRI, both within the MICCI program and among other programs, that had applicability to this project. He then introduced Mr. Ruppert to lead the next session.

Regulatory and Compliance Context

Thomas Ruppert initiated a new set of slides that followed the agenda in describing the permitting compliance and enforcement work to date. He began by giving the purposes of the presentation as giving participants and interviewees an idea of where the draft product is going and to present topics for discussion and to receive input.

Ruppert first section was on general conclusions from Phase One. He noted the most important conclusions related to the drafting of the special conditions for coral protection. These include: simplified permit writing, better organization, and user specific dates, detailed reporting methods and requirements, and simplification through standardization as possible. Other general conclusions from Phase One included the need to verify mitigation activities prior to project impact, detailed mitigation plans for unpermitted impact, improved design requirements, and pre- and post-construction monitoring. He also noted that all agencies involved indicated a lack of diving capacity. In addition, he noted that Phase One interviews consistently expressed a desire for increased inter-agency cooperation on compliance and enforcement.

Ruppert then proceeded to Phase Two general conclusions. He began with several positive indicators including:

- DEP and USACE are currently developing special condition templates.
- Multiple agencies already have extensive informal consultation processes in place.
- USACE and DEP sometimes coordinate on mitigation during permitting.
- Few projects occur in the open ocean, or beyond DEP jurisdiction.

Phase Two also includes several challenges:

- Resource constrains in all agencies. i.e. insufficient staff and funding for travel, or diving
- Agencies concerned that standardized conditions may be too limiting. The need to increase inter-agency cooperation through joint site visits.

- Jennifer Smith: I don't think we have the ability to make any kind of formal requirement for consultation between the federal and state governments. As far as for rules and statutory languages, the informal works well unless we are talking about a major project or alike.
- At least the informal approach works pretty well in our office down here, Smith continued. We tried to increase inter-agency cooperation but due to time constraints sometimes it is just not possible, but I agree that agencies should coordinate as much as possible. Many times we are forced to move forward in a project due to workload and time concerns. But, if someone does respond to us while we move down to say, mitigation process, we will and have to get back to them within 30 days. However, we do not have the legal authority to go back and make sure that everyone is keeping up-to-date with the Corps; we do try to explain the consequences to applicants if they do not notify the Corps.
- Corps Section 10 of the RHA extends out to 3-nautical miles in most instances. The Corps Section 404 of the Clean Water Act ends at the 3 nautical mile limit as does DEP permitting jurisdiction.
- Endangered Species Act habitat protections under 'Destruction or adverse modification' rarely applicable. Absence of independent monitoring: the difficulty of proving the source of harm from sedimentation.
- Harmonization of mitigation techniques/materials.
- Issues of enforceability for mitigation plans or ESA, biological opinions, which are 'incorporated by reference into permits.
- Lack of maps indicating coral locations

Ruppert at this point paused and offered the opportunity for additional questions and comments.

Walczak: DEP does have GIS maps of various coral locations. But these resources are offshore and do not cover

Ruppert's next focus was on Phase Two findings related specifically to DEP. He noted that they had an excellent permit tracking system, but they could benefit from increased resources for compliance and enforcement. Ruppert indicated that such increases might reasonably require documentation of actual increases in enforcement and compliance activities. DEP officials noted in Phase Two that coral protection could be improved through adoption of sediment criteria for trucked-in sand for dune building. Ruppert also noted that Phase Two interviews indicated incidences in which DEP's joint coastal permitting rejected the possibility of independent monitoring of permits. Ruppert then again requested questions and comments.

The next section of Ruppert's presentation looked at federal laws relevant to coral protection. The first focus was the Magnuson Stevens Act. Ruppert noted that the MSA includes limitations on coral harvesting.

Jennifer Smith: The lack of independent monitoring was a good point. We just had a situation came up recently, and that is important, but it is going to be a staff resource issue as to how well we can address. We will go out and follow up on projects and we have been doing some significant compliance checkups for larger projects. We also take our own samples for turbidity tests. DEP will take problems such as turbidity seriously through sampling. Data from other sources might not be accurate and arrive in a timely manner, and depending on what date we choose, DEP might get into trouble. However that being said, it is simply not possible for DEP to monitor every single project on its own. Therefore, if DEP chooses to monitor one big project and not the others, DEP might get in trouble for focusing on some and not others. (DISCUSSION OF CONFUSION BETWEEN DEP-FUNDED/EXECUTED MONITORING AND THIRD-PARTY MONITORING) If there is a third party monitoring in place, it is going to have to be paid by the permittee.

Jocelyn Karazsia: So how does it work exactly?

Smith: The only example of requiring third-party monitoring I can think of is the pipeline project that never came into being.

Jason Andreotta: We are actually assisting Beaches & Coastal right now, and they are pumping sand for beach restoration project, and they have a third party doing sedimentation and turbidity monitoring for them. Mellissa has been out there at least twice to compare our data with their turbidity results. And in this case, their results were indeed reliable.

Smith: Again, I would like to point out that in this political environment, there is just no way the state agency can fund it.

Linda Knoeck(32:35~ 44:00):

The question is that whether the contractors are actually going to adhere to the monitoring. There is really no way to monitor them to see if they are following the guidelines that we put out in our permits. This is where an impartial third party could be helpful. USACE has required third-party monitoring on a very few large projects, but we USACE also cannot fund third-party monitoring. In addition, since USACE cannot get in the water, we have to take at face value the surveys and information supplied by the permit holders/contractors and whether they want to disclose if they have done something they shouldn't have or if they have impacted something they shouldn't have, we have to go on the face value of these surveys, unless we have evidence otherwise.

In addition, there is pretty frequent, informal consultation between DEP permit managers and USACE enforcement. Additional guidance might be useful within agencies to ensure that this is common practice administratively within each agency.

Samantha Rice from USACE reviews new applications for the State Programmatic General Permit Agreement between the State and the Corps. Samantha completes a preliminary review of the applications and works directly with the State's project managers to address many concerns up front and get all appropriate applications into the general permit process rather than individual permitting.

Ruppert then asked for suggestions on internal agency routing or permitting processes that might facilitate better cooperation between agencies. (36:55)

Benny: While I do not know the USACE procedures, but when Samantha Rice gives something a "red," it needs a USACE permit. Does Sam know at that point who it is assigned to?

Knoeck: No

Benny: How long does that usually take?

Knoeck: Ideally a couple of days. It goes to Tori White's desk, she assigns a project manager to it, and it then goes to an office manager who logs it into our system. We are under specific time constraints right now to ensure that from the time an application comes in and is time stamped and the time it gets to the project manager's desk is no more than one week—5 working days.

Benny: The sooner the DEP processor knows who the USACE project manager is, the better.

Knoeck: The top page of our permit indicates the permit processor in DEP. But DEP does not necessarily have any idea who is in charge of the project at USACE unless they manage to call USACE and track down who has the permit.

Walczak: Would it add a level of complication to have a living document that both agencies have access to that would state who is the USACE and DEP managers for it. This could then be updated as soon as someone is identified?

Knoeck: Would this be through a website or something?

Walczak: It could be an FTP site that anyone that needs to check it could check it. Only for internal purposes. (Discussion of the available technology for this that would automatically advise all with access when such sheets are updated)

Knoeck: Not many DEP have worked at USACE, so they are not very familiar with how and what we regulate. It would be great to have DEP personnel and USACE personnel

get together and discuss the regulations. This would help build understanding and better relations between permit processors and help to develop better guidelines for informal review of monitoring and to build more connections. DEP staff agreed on this.

At this point, Lindeman reminded everyone of the time, and suggested proceeding with the slides, while follow-ups on these comments and suggestions can be made later on during the presentation as appropriate.

Ruppert then noted that the most important protections under MSA are habitat protections for essential fish habitat (EFH). Coral reef constitutes EFH. In Florida, EFH is also classified as a habitat area of particular concern (HAPC), the highest level of EFH protection. In EFH analysis, the federal action agency initially determines whether a proposed action may adversely affect EFH. If no, then no further process is usually required.

For other federal contacts, Ruppert then discussed the Endangered Species Act (ESA). He first noted that it protected both species and habitat. Section 9 prohibits take of protected species. Take can mean harm, and harm may result from significant habitat modification, which actually kills or injures protected species. Section 7 requires federal agencies taking any action, which may affect protected species to engage in formal consultation with the Fish and Wildlife Service or NMFS as appropriate. If formal consultation is necessary, NMFS will create a biological opinion, which includes jeopardy, and take analysis as well as a destruction and adverse modification analysis. Take may be permitted under some circumstances; however, an activity may not be permitted if it may result in jeopardy. Jeopardy must be avoided through 'reasonable and prudent alternatives' recommended by NMFS. Transplanting corals outside of critical habitat is NOT a reasonable improvement measure to avoid jeopardy or take.

Destruction and adverse modification analysis requires a determination that habitat impacts do not reach the level to qualify as destruction or adverse modification of designated critical habitat. If destruction or adverse modification is found in the biological opinion, artificial reef creation may not be construed as a reasonable and prudent alternative that obviates the destruction or adverse modification finding. However, transplantation to critical habitat and artificial reef creation can be used as mitigation techniques in a habitat conservation plan required for an incidental take permit under the ESA. Ruppert again solicited questions and comments.

Cynthia Lott (1:00:00): The Critical Habitat area for corals was not extended to Palm Beach County, but the corals are still protected by ESA regardless.

Logan: The coral itself is still protected under the ESA. There is a partition to extend the critical habitat designation further north. Based on the research that are available, they

felt that the extension did not extend any more benefit for the species as a whole, so they did not extend any further north. The particular corals are still protected under the ESA.

Karazsia: Determination by NMFS on whether or not to extend the critical habitat for corals. If an action may adversely affect EFH, NMFS gives conservation recommendations. In response, the federal action agency may include in the permit mitigation or other conservation measures recommended by NMFS or the agency may explain why it proposes to proceed inconsistently with NMFS recommendations.

Ruppert then discussed Phase Two findings specific to USACE. Phase One concluded that USACE could not do diving nor snorkeling and that they had no authority to enforce turbidity or other special condition

Knoeck: USACE does not itself do any turbidity monitoring as USACE relies on monitoring conducted by applicants or other state and federal agencies. USACE does do compliance checks based on national performance standards.

Logan: Enforcement and permitting people in USACE are separated and once permitters write a permit and send it to an enforcement person, the permitters never hear about it again as the enforcement office now does everything.

USACE is aware of this they inform the applicant reminding them that they are cautioned that commencement of the proposed work prior to DA authorization would constitute a violation of Federal laws and subject to possible enforcement action and that receipt of a permit from other government agencies does not obviate the requirement for obtaining a DA permit prior to commencing the proposed work.

The USACE does include turbidity requirements in their species conditions of their permits, and can enforce water quality related special conditions in our permits. The USACE often defers water quality issues to the State since the State has authority to certify an activity as complying with water quality under section 401 of the Clean Water Act. The USACE is also required by NEPA to complete a public interest review for all projects, there are 20 public interest factors that must be looked at, water quality is one of those factors.

Knoeck: question from Linda Knoeck to Kelly Logan: What do you mean by no jurisdiction to enforce turbidity standards?

Ruppert: In Phase One, one of the conclusions was that USACE had no authority to engage in enforcement for failure of a permittee to comply with turbidity standards in a

USACE since USACE considered turbidity a “water quality standard” that was not within its statutory authority.

Logan (13:10): USACE enforcement people and all the way up the chain said that the USACE considers turbidity a water quality issue which they have no ability to enforce. But the USACE still copies all of this into USACE permits since they are required to do this. The USACE does not, however, enforce these limitations.

Andreotta: Does the USACE receive turbidity monitoring reports?

Logan: No, they depend on DEP to do enforcement of turbidity as USACE believes DEP is a more appropriate agency to enforce water quality standards.

Ruppert: Phase Two results to date note that new NMFS monitoring procedures may be useful for USACE compliance and enforcement. New standard operating procedures for NMFS monitoring were discussed with Pace Wilber of NMFS to determine how USACE and NMFS may be able to cooperate so that NMFS gathers appropriate information that could be useful to USACE for compliance review and enforcement actions when NMFS is doing its biological monitoring.

Karaszia: The SOPs were vetted with both DEP and USACE and commented on extensively.

Ruppert: (#2, 6:20)Phase Two also confirmed and strengthened the need for USACE to have administrative penalty authority under Section 10 of the Rivers and Harbors Act. The fact that Section 10 can only be enforced through a court injunction or a criminal action makes enforcement almost impossible. USACE said that last year there was only *one* enforcement action under Section 10 *in the entire United States!* The problem is that USACE cannot pursue criminal enforcement itself; USACE must ask the U.S. Department of Justice to pursue such criminal cases, and the U.S. Department of Justice rarely will take these cases.

Phase Two finds that USACE technically does have authority to enforce turbidity and water quality related standards in permit conditions. However, it may be that USACE is not the most appropriate agency to enforce these protections since USACE’s central mission, at least under Section 10 of the Rivers and Harbors Act, to protect navigation. It may be that while USACE can legally enforce turbidity or other conditions related to protection of water quality, it might be more *appropriate* in most instances for Florida DEP to monitor and enforce permit conditions related to turbidity and water quality.

However, DEP only has authority to regulate up to three nautical miles out in SE Florida. USACE, on the other hand, can in some instances regulate as far out as the Exclusive Economic Zone of the United States under the authority of the Outer Continental Shelf Lands Act. In these cases, since only USACE has regulatory authority,

it would be very important for USACE to include and enforce turbidity or water quality standards for protection of corals. Unfortunately, USACE does not do any monitoring of permit compliance other than review of any monitoring reports that are submitted pursuant to permit conditions—and not all of these are properly submitted. Even if USACE did have information about permit violations under Section 10, you will recall that they can only recommend to the U.S. Department of Justice that DOJ pursue the case. Thus, the only agency with clear regulatory authority outside of three nautical miles lacks the enforcement capability to effectively capitalize on this broad jurisdictional reach.

Phase Two also found:

- USACE compliance efforts rely entirely on self-reporting, or information supplied by other agencies.
- USACE permit tracking system for self-reports is probably inadequate. For example, it cannot alert USACE to missing reports.
- USACE's jurisdiction under section 404 of the Clean Water Act is limited to 3 nautical miles offshore in Southeast Florida.
- USACE jurisdiction under section 10 of the Rivers and Harbors Act can be much greater due to the Outer Continental Shelf Lands Act.
- When NMFS issues a biological opinion, USACE incorporates this by reference into the permit, instead of included special conditions designed to fulfill the desired biological conditions required.

Knoeck(#2,11:00): Where monitoring reports are required based on the special conditions of the permit, the USACE Enforcement reviews the reports for compliance. All USACE permits require either self-certification or as built certification. The USACE only take a certain percentage of issued permit to conduct and complete compliance checks.

Logan: Enforcement personnel and the permitting personnel are scattered at different locations. After the permitting personnel write a permit and send it to the enforcement personnel, but the permitting personnel usually never see what might happens after that, unless the enforcement personnel is really ambitious and asks the permit writer questions regarding the permit.

Knoeck: There have been many misinterpretations between the permitting personnel and the enforcement personnel in the past. Kelly's report on Phase 1 brought attention to this issue. Now, the USACE will call up the person in Jacksonville if enforcement has any questions on the permit or conditions. The more the USACE has done this, the fewer misunderstandings of permit conditions we have seen.

Knoeck: Another thing permit managers do informally is withdraw an applicant's application if they do not respond the USACE request for additional information. These withdrawn application are held in the office for one year, at which time the applicant can submit the requested information and the USACE will continue the review process.

If time allows, I sometimes follow up very informally with those projects that have been withdrawn due to lack of applicants response, to ensure people are aware that they are required to receive a USACE permit for the proposed work. There are time that I then find out that the projects have been completed without a USACE permit, and in those cases those files are forwarded to our enforcement. As a project manager, I get no "credit" for doing this as no one evaluating my performance will look at this. The Palm Beach Gardens office have discussed these issues and discuss ways to address the issue.

Lott: I hear that Oculina Reserve has the 3 nm jurisdictions for impacts on deep-water corals. (she is unsure, so not much information, Knoeck responded to this below)

Logan (2nd tape 19:50): Building of artificial reefs is not considered "fill" under Section 404 of the Clean Water Act. Dumping rocks outside 3nm is not considered fill. It goes under Section 10 and that is much weaker for the USACE than 404 permitting.

Knoeck: Artificial structures are considered structures not fill. Since section 404 of the CWA only extends to the 3-nautical mile limit, 404 (fill) activities are not regulated outside this area.

Karazsia: This question is for Jen. What does the DEP's office of Intergovernmental Programs do?

Smith: You still have to have your coastal zone consistency with the state, so when it is beyond our jurisdiction of the 3 nm, since it does not get any DEP ERP, we have this intergovernmental affairs office to do the coastal consistency review under the authority of the CZM. This gives DEP, Fla. Fish & Wildlife Com'n., and other agencies the right to comment on projects that might impact resources in Florida's coastal zone, but not very clear that this can necessarily lead to permit denial.

Ruppert then concluded with summary recommendations:

- Inter-agency efforts to better coordinate special conditions while maintaining flexibility for site-specific resource concerns would be very useful.
- Increased joint site visits (NMFS, USACE, DEPs) needed to promote better resource protection and closer professional relations among agencies.
- Expand cooperation between NMFS and USACE, and DEP on information gathering and sharing.
- Increased resources to agencies for compliance and enforcement activities.

- Development of administrative authorities for USACE to impose administrative penalties for violations of Section 10 of the Rivers and Harbors Act.
- Creation of an improved permit tracking system for USACE.
- Develop detailed tracking system for monitoring and compliance reports at all agencies that can be integrated into the SEFCRI permit tracking project (MICCI Project 7-11).
- Creation of exceptions to Florida's Sunshine laws for compliance and enforcement information shared between USACE and DEP.
- Creation of general criteria defining which projects should use independent monitoring.

Questions were then invited and discussed until the break.

Lott: About the M-S Act regarding no take of the live corals, we are talking specifically on limitations on coral harvesting and scleractinian reef-building types. In some areas, we see some change in types of corals that can be supported and are seeing a loss of scleractinian species. We have live rocks that might support some other types of corals but not the scleractinian species. So, when we talk about limitations on coral harvesting, I am not very familiar with the criteria here....

Karazsia: There are fishery management plan for each fishery that is managed by the South Atlantic Fishery Management Council. So for example, spiny lobster has its own fishery management plan, and essential fish habitat is designated for each life stage of spiny lobster. Corals are managed like fish, so there are fishery management plans for corals. Some types of corals are harvested and sent to aquariums and so on. These fishery management plans specify the limit of harvesting and other details to ensure the species is sustained.

Kelly Logan: Thinking about the third party monitoring: The monitors that they station on dredges for sea turtles have to meet certain criteria. In the permit, the permittee has to select turtle monitors that are licensed and meet appropriate criteria. Couldn't you set up something similar and have contractors/consultants go through a course, meet the criteria, and then add them to a list of consultants? The permittee would still be required to fund this monitoring.

Ruppert: You could also ensure that all the contracts are designed to ensure the consultants are not skewing data in favor of who is paying the monitoring consultant.

Agencies would have to agree sufficiently on what criteria and skills they would want to see ensured by a permitting/licensing program.

Smith: Not sure if a program like this would require rulemaking. We at DEP cannot endorse anyone in particular, and we have a list of contractors. Currently this list has people that we would like to cut off of it, but we can't cut them off and not others.

Todd McCabe: The USACE has a good wetland delineation-monitoring program. One has to complete training through a certified contractor by the USACE therefore it is more credible.

But can USACE then require use of a contractor that has gone through this process?

Knoeck: No, because USACE only requires a qualified biologist that is able to recognize wetland and aquatic plants. USACE would have to develop specific policy to make this change.

Ruppert: At the state level it will require some legislature. One example is the fertilizer certifications for anyone who is not the homeowner.

Smith: Stream lining bills identified how to get the applications complete quicker, and one of the way it to get the upper level consultancy to get us better applications. Professional certification would be excellent, but potentially difficult.

Karaszia: I've heard this come up many contexts, and it sounds useful.

Walczak: It would be useful to develop a certification program and post it online.

Smith and Knoeck agreed there is a need to scale up several types of coordination.

Benny Luedike: Paperwork needs to be routed better efficiently among agencies.

Walczak and McCabe: it would be useful to eventually test and certify contractors. This could be made into a LAS project. Storm water or wetland certification could be a model.

Lindeman then briefly summarized up to this point and suggested a monitoring review paper by Peterson and Bishop, 2005, BioScience. Attendees were thanked for their efforts and the meeting was adjourned for 15 minutes.

Break -15min

Applying Existing Information to Enhance Compliance and Enforcement

After the break, Ruppert proposed three general topics for general discussions. These included:

- Intra-agency efforts to develop special condition templates.
- Inter-agency discussion of template special conditions.
- Increased inter-agency coordination compliance and enforcement.

Ruppert then invited open discussion.

Logan: There have been changes in the special conditions that NMFS developed regarding artificial reefs. Many of the biological items that we worked hard on were taken out. Why?

Knoeck (3rd tape, 2:40): USACE wanted the special conditions to be used nationwide, so they took out the part on corals. USACE has special conditions for artificial reefs and monitoring is required in the conditions. Conditions are changed to fit your specific project in your area. For example, if you needed a bigger buffer, with recommendation from NMFS, then you can change the buffer in the special conditions.

Logan: But the special conditions need to be specific in order to be effective.

Knoeck: FL has diverse coastal zone regulations, 3nm as well as 9 nm. Must use case-specific conditions. Hard to check the accuracy of the water boundaries for corals, not the same like in the case for wetlands (can be measured by USACE). The USACE delineates wetland boundaries, the USACE does not dive/snorkel to determine coral boundaries.

Karazsia: How about getting the special condition template from the DEP ftp site. We need a standardized language we can all use to seal things and ensure compliance and enforcement.

Lott: Once we have a standard template, it will be easier on each state to modify according to its particular needs; the templates can be used to create subsets.

Knoeck: It all comes down to training and education on how to develop and use standardized templates.

Lindeman: Could we get those existing templates and archive them?

Logan: Will get these documents. Online is best. What about BMPs? Keep encouraging people to make references to the handbooks that are available.

Smith: It is important to balance specificity vs. too much “cut & paste.” A “template” should be used that still allows the permit processor to look at specifics.

Knoeck: USACE has special conditions for ARs, 404 dredging and fill, and Section 10 projects. The USACE Palm Beach Gardens office would like to build out enforcement personnel.

Lindeman: It would be useful for all of us to get a hold of the documents that are available but rarely used. We are drafting the document by March 15 and any comments and suggestions are welcome. Our contact details can be obtained from Joanna.

Lindeman closed this session by walking through a series of slides representing a highly draft version of awareness training materials. He provided background on this section noting that Phase One and Phase Two interviews determined considerable agency interest in receiving materials for permitting compliance personnel. Agencies had similar interests in outreach materials including a PPT presentation for in-house training as well as materials that could be used in the field.

He noted the prior development of a variety of coral outreach materials by other SEFCRI projects, as well as materials generated external to SEFCRI. A vast majority of these materials were developed for the general public and are not specific to agency personnel. He provided slide examples to some of these materials, including both user friendly and user-unfriendly documents. He emphasized a desire to make documents as user friendly and agency driven as possible.

He provided slides on coral identification from a well-known powerpoint file developed by Vladimir Kosmynin and Christopher Boykin. He stated that the detail on coral taxonomy available in this file probably not need to be repeated in this awareness materials developed in this project, but that some of the slides may be used and that the Kosmynin/Boykin file would be referenced in products in awareness training materials from this project. He also noted that agencies had asked for information on hardbottom and worm rock. Therefore, he presented several draft slides for group comment on these habitats.

Lindeman closed the section on awareness training materials by seeking more information on the specific audiences that the materials are going to address. He stated that this project was not responsible for actually administering the training and therefore needed more information on numbers of staff per agency that require training, whether that training will be in the office or field, and who would actually conduct the training. He put up a template slide with a table soliciting this information in differing cells by specific agencies. He also solicited points of contact from each agency for

follow-ups on awareness training materials. Linda Knoeck indicated that she would serve as a point of contact for the USACE Palm Beach Gardens office. Jason Andreotta subsequently stated that he would serve as the point of contact of the DEP Southeast District, compliance manager.

Logan: It would be good to have cards of corals from the northern SEFCRI range, so people can identify the non-pristine corals not usually illustrated. And to see what they look like when they are under stress/ill.

Walczak: Can talk with Tim and get each department's point of contact.

Lott: Also get the county people to participate and input to the program, and Broward County regulatory people.

Logan: Miami-Dade County, Dr. Lisa Spatafina and/or Janet Febsa?

Walczak: Need to get to the regulatory officials.

Lott: Corals to north are different and more stressed than those in the south. Need to develop the information accordingly. Volunteers organizations can help give training to different agencies.

Knoeck: USACE project managers have suggested they would like to be more involved in the enforcement actions in regards to the permit they issue. 'cradle to grave' approach. The Corp would like to increase enforcement. There is currently a gap north of Miami to Jacksonville in enforcement as the USACE transitions to new enforcement personnel due to the retirement of the former enforcement person for the area.

Everyone talking about coordination between agencies,

Jack Dunphy is retiring, who will be the point of contact in Jacksonville? Diane Griffin, who is in enforcement? Robert Kirby? Debbie Wegmann is Chief of Special Projects and Enforcement Branch. Robert Kirby currently is the point of contact for enforcement issues from Broward County south. However, he has stepped up to help in other cases until the current transition of enforcement personnel is resolved and/or fulfilled.

Knoeck (1:10: 45): Not sure how we will be doing the Awareness Training on the permitting side though. We don't have someone down here. I would be throwing out names, probably Barbara Laurence, perhaps? But just to keep in mind that we cannot have two USACE personnel working on the same project.

Public Comment

There were no representatives of the general public present and no public comments were provided.

Meeting Close and Summary

Lindeman thanked the audience and stated that Ruppert and he would follow up as necessary. All attendees were thanked for both their time and ideas.

All attendees were encouraged to provide any additional ideas and comments that may occur later. The meeting was adjourned.

Meeting agenda for West Palm Beach and Tallahassee invitational meetings.

Southeast Florida Coral Reef Initiative (SEFCRI) Maritime Industry and Coastal Construction Impacts (MICCI) - Combined Project 4, 21, 23, 24

Meeting Agenda

West Palm Beach: Monday, February 1st, 2010 - 1 - 4pm in the FDEP Southeast District 2nd Floor Conference Room

Tallahassee: Tuesday, February 9th, 2010 - 9am - 12pm in the FDEP Bureau of Beaches and Coastal Systems Conference Room

Meeting Objectives: Present for discussion and interagency evaluation the information gathered to date from this and other SEFCRI projects, as applicable, including information from prior enforcement staff interviews; the draft Coral Reef Resource Awareness Training Program (ATP); and the outline for the draft report.

Introduction (15 min)

Introductions of attendees

Short overview of MICCI Project 4,21,23,24 objectives and tasks

Regulatory and Compliance Context (60 min)

Short overview of the legal frameworks

Information on USACE, DEP, and other agency permitting

Review of Phase 1 results; Review of Phase 2 preliminary results

Open discussion among meeting attendees

Break – 15 min

Applying Existing Information to Enhance Compliance and Enforcement (70 min)

- Increase uniformity of permit special conditions
Open discussion among meeting attendees
- Increase interagency information sharing
Open discussion among meeting attendees
- Increase agency knowledge base on coral science and permitting
Present Draft ATP Materials slide show
Open discussion among meeting attendees

Public Comment (3 minutes per speaker)

Meeting Close and Summary (10 min)

Appendix 8. Record of public meeting, Feb. 9, 2010, Tallahassee, Florida.

**Southeast Florida Coral Reef Initiative (SEFCRI)
Maritime Industry and Coastal Construction Impacts (MICCI) Workgroup
Combined Project 4, 21, 23, 24**

Record of Public Meeting
Tuesday, February 9th, 2010 - 9am - 12pm
FDEP Bureau of Beaches and Coastal Systems Conference Room
Tallahassee, Florida

Meeting Attendees:

Steven MacLeod	FDEP-BBCS
Marty Seeling	FDEP-BBCS
Vladimir Kosmynin	FDEP-BBCS
Lisa Gregg	FWC
Gene Chalecki	FDEP
Charlotte Hand	FDEP
Molly Edson	FDEP
Donna Kindall	FDEP
Jim Martinello	FDEP
Robert Halbert	FDEP
Mike Barnett	FDEP
Merrie Neely	FDEP
Joanna Walczak	FDEP, Coral Reef Conservation Program
Todd McCabe	FDEP, Coral Reef Conservation Program (NOAA Coral Fellow)
Tim Roth	
Thomas Ruppert	University of Florida
Ken Lindeman	FIT, Dept. of Marine and Environmental Systems
Haiyun Yu	FIT, Dept. of Marine and Environmental Systems

Introduction

Dr. Lindeman introduced the project by describing the structure of the DEP-CAMA-CRPR-SEFCRI. He then introduced the specifics of SEFCRI projects for 4, 21, 23, 24; noting that the task was developed by a project team within MICCI that included representatives of the USACE, DEP, and NMFS. The project was ambitious and all felt that there is an opportunity to develop solid recommendations to improving coral regulatory compliance and enforcement. He emphasized that our goal is to talk with not at the attendees. Internal feedback on improving the system is absolutely essential to product success.

He noted that this is Phase Two of the project and that Phase One was completed by Kelly Logan in 2009, and that all were pleased they had a solid report from her to build upon. Dr. Lindeman noted that this meeting is a public meeting and then reviewed a couple of slides that set out SEFCRI ground rules for standard discussion at such meetings. At this point, there was a delay as the conference line with Joanna Walczak and others being established.

Lindeman then went through slides that describe tasks 2 through 6 of Phase Two of the project. He focused on deliverables and timing of each task, again emphasizing the agency support on the feedback. He also used a slide to acknowledge the existence of other projects within SEFCRI both within the MICCI program and among other programs that had applicability to this project. Public comments were welcomed at the end of the morning session. He invited comments at this point. He then introduced Mr. Ruppert to lead the next session.

Regulatory and Compliance Context

Thomas Ruppert initiated a new set of slides that followed the agenda in describing the permitting compliance and enforcement work to date. *Phase One and Phase Two overview*. Ruppert began by giving the purposes of the presentation:

- To give participants and interviewees an idea of where the draft product is going.
- To present topics for discussion and to receive input.

The first section of the presentation was on general conclusion from Phase One. He noted the most important conclusions related to the drafting of the special conditions for coral protection. These include: simplified writing, better organization, and user specific dates, detailed reporting methods and requirements, and simplification through standardization as possible. Other general conclusions from Phase One included the need to verify mitigation activities, prior to project impact, detailed mitigation plans for unpermitted impacts, improved design requirements and pre- and post-construction monitoring. He also noted that all agencies involved indicated a lack of diving capacity. In addition, he noted that Phase One interviews consistently expressed a desire for increased inter-agency cooperation on compliance and enforcement.

Ruppert then proceeded to Phase Two general conclusions. He began with several positive indicators including:

- All agencies involved in coral protection (except NMFS) already currently developing special condition templates.
- Multiple agencies already have extensive informal consultation processes in place.

- USACE and DEP sometimes coordinate on mitigation during permitting.
- Few projects occur in open ocean, or beyond DEP jurisdiction.

Phase Two also reviewed several challenges. These include:

- Resource constraints in all agencies. i.e. insufficient staff and funding for travel, or diving
 - Agencies concerned that standardized conditions maybe too limiting. The need to increase the inter-agency cooperation through joint site visits.
 - Agency jurisdiction often limited to three nautical miles.
 - Endangered Species Act habitat protections under 'Destruction or adverse modification' rarely applicable. Absence of independent monitoring: the difficulty of proving the source of harm from sedimentation. Harmonization of mitigation techniques/materials.
 - Issues of enforceability for mitigation plans or ESA, biological opinions, which are 'incorporated by reference' into permits.
 - Lack of maps indicating coral locations.
- Joanna indicated in the WPB meeting that DEP does have GIS maps of corals, but clearly DEP and other agencies are not aware of that.

Ruppert paused at this stage in the presentation and offered the opportunity for questions and comments.

Marty Seeling: We primarily deal with nearshore hardbottom corals. It is nice to have some baseline information, but because the nearshore hardbottom is typically very dynamic and often ephemeral, the maps of coral may not be accurate once they are available.

Vladimir Kosmynin: There are boat limitations for measurement (only operate in water deeper than 3 feet). However, we have data from previous projects to make use of. For example,, hardbottom within the active zone (100-feet), divers can even see hardbottom covered in sand; this dynamism of changes can extend up to 1 to 2 miles offshore and up to 50-75 feet of depth depends. We are repeating projects, which gives us more experience and use of existing data.

Very desirable yet not affordable to use GIS database from Broward County. These data can let you see the corals underwater clearly.

Lisa Gregg: Does DEP have any standard methodologies for doing coral surveys?

Seeling: Yes, Vladimir is working on developing guidelines.

Kosmynin: The goal or gold standard for coral resource mapping is really the work done by Broward County where they developed a comprehensive GIS database map. Unfortunately this is really expensive, but it is the best way when financial resources permit.

Seeling: It is hard to determine which snap shots are persistent. Mitigation will be permitted further offshore if it is persistent. It would be good to treat ephemeral and persistent hardbottom differently in mitigation. For example, DEP used to get into fights with USACE over this issue; DEP would allow mitigation for ephemeral hardbottom to sometimes cover over since the hardbottom being mitigated sometime did as well. USACE did not like this and didn't want the mitigation getting covered ever, so the USACE wanted to permit the mitigation further away from the shore.

Lisa Gregg: There are standards for manatee protections, but there are statues that must be made in FWC. Special activity licenses are required for relocation. In addition, FWC is developing guidelines for its consultation letters. While FWC is not a typical permitting agency, FWC is essentially drafting special condition templates that would fulfill the conservation/protection recommendations that will accompany the special conditions template. Before FWC can finalize any of this, FWC will need to work with DEP and the USACE to get their input.

Steve MacLeod: There is coordination between the USACE and DEP and FWC. If there is an issue, calls to discuss concerns. There are no formal reviews for a particular project. However, DEP copy federal agency and USACE, NMFS, FWC are often notified. Time can sometime be a limiting factor in inter-agency consultation as the clock may already be ticking for the State before the USACE has person assigned to the application.

Gregg: Concepts of team permitting project. To develop guidelines for "team permitting" that involves multiple agencies having one or more pre-application meetings to discuss the proposed project with the applicant very early on in the process. This often makes things easier for the permittee in the long run.

Kosmynin: This has typically only been used for very large projects. For smaller projects, team permitting might hurt.

Gregg: in Tampa, St. Pierce area, some larger projects have strenuously resisted team permitting.

Seeling: Larger projects do not usually prefer getting too many big agencies involved, but at the same time, this is inevitable.

Gregg: there are more companies that started to get more agencies involved to avoid troubles later in the project. An example of team permitting is the Calypso liquefied natural gas (LNG) permit. It would be good to investigate the possibility of establishing criteria for team permitting for smaller projects as well.

Gregg and Ruppert mentioned a “divide and conquer strategy”

The next section of Ruppert’s presentation looked at federal laws that relevant to coral protection. The first focus was the Magnuson Stevens Act. Ruppert noted that the MSA includes limitations on coral harvesting. Ruppert then noted that the most important protections under MSA are habitat protections for essential fish habitat (EFH) coral reef constitutes EFH. In Florida, the EFH is also classified as a habitat area of particular concern, the highest level of EFH protection. In EFH analysis, the federal action agency initially determines whether a proposed action may adversely affect EFH. If no, then no further process is usually required. If an action may adversely affect EFH, NMFS gives conservation recommendations. In response the federal action agency may include in the permit mitigation or other conservation measures recommended by NMFS or the agency may explain why it proposes to proceed inconsistently with NMFS recommendations.

For other federal contacts, Ruppert then discussed the ESA (J. Walzack commented 100 more species being added to the list). He first noted that it protected both species and habitat. Section 9 prohibits take of protected species. Take can mean harm, and harm may result from significant habitat modification, which actually kills or injures protected species. Section 7 requires federal agencies taking any action, which may affect protected species to engage in formal consultation with the Fish and Wildlife Service or NMFS as appropriate. If formal consultation is necessary, NMFS will create a biological opinion, which includes jeopardy and take analysis as well as a destruction and adverse modification analysis. Take maybe permitted under some circumstances; however, an activity may not be permitted if it may result in jeopardy. Jeopardy must be avoided through ‘reasonable and prudent alternatives’ recommended by NMFS.

Kosmynin: Jeopardy as to species? Or individual?

Seeling: It is to the individuals. We cooperate the conditions necessary. Sometimes the biological conditions maybe more stringent than others.) Transplanting corals outside of critical habitat is NOT a reasonable improvement measure to avoid jeopardy or take. Destruction and adverse modification analysis requires a determination that habitat impacts do not reach the level to qualify as destruction or adverse modification of designated critical habitat. If destruction or adverse modification is found in the biological opinion, artificial reef creation may not be construed as a reasonable and prudent alternative that obviates the destruction or adverse modification finding. However, transplantation to critical habitat and artificial reef creation can be used as

mitigation techniques in a habitat conservation plan required for an incidental take permit under the ESA.

The final portion of the federal legal context that Ruppert presented was based on the Coastal Zone Management Act. Ruppert noted that this act encouraged states to develop coastal zone management plans and that Florida's approved coastal management plan includes 24 different Florida statutes that implement the plan. The CZMA gives several Florida agencies, including DEP, FWC, DCA, and others to review either federal development projects in Florida waters or federally-permitted or federally funded projects that "affect any land or water use or natural resource of the coastal zone" At this point, it was time for questions and comments.

Seeling: Intergovernmental coordination takes place. Reasons for improvement measures.

MacLeod: Has heard that a significant reason that the USACE does not get in the water is that the policies with which the USACE would have to comply are extremely onerous; gave example that it would supposedly take five people on a boat to have one USACE diver get in the water.

Seeling: A female colleague at the USACE had to take a day off to go diving for coral inspection.

Lindeman: Has anyone else had notable experiences in regards to diving or snorkeling in regards to these issues? Isn't it only appropriate to see the policy?

Everyone: Yes.

Donna Kendall: Knows of a USACE colleague in Pensacola that snorkels on the job.

Ruppert's next focus was on Phase Two findings related to specifically to DEP. He noted that they had an excellent permit tracking system, but that they could benefit from increased resources from compliance and enforcement. Ruppert indicated that such increase might reasonably require documentation of actual increases in enforcement and compliance activities. DEP officials noted in Phase Two that coral protection could be improved through adoption of sediment criteria for trucked-in sand for dune building. Ruppert also noted that Phase Two interviews indicated incidences in which DEP's joint coastal permitting rejected the possibility of independent monitoring in permits. Ruppert then again opened the room for questions and comments.

Ruppert then discussed Phase Two findings specific to USACE. Phase One concluded that USACE could not do diving nor snorkeling and that they had no authority to enforce turbidity or other special conditions related to water quality. Phase Two noted that new NMFS monitoring procedures maybe useful for USACE compliance and

enforcement. Phase Two also confirmed and strengthened the need for USACE to have administrative penalties authority under section 10 of the Rivers and Harbors Act. Finally, Phase Two concluded that USACE technically does have authority to enforce turbidity and water quality related standards in permit conditions. However, it may be that USACE is not the most appropriate agency to enforce these protections.

Gregg: We had already run into the USACE saying that we cannot do. Ocean current projects are almost similar to arranging 18 permitting conditions. NMFS will address these issues and prioritizing.

Ruppert then stated that Phase Two found:

- USACE compliance efforts rely entirely on self-reporting, or information supplied by other agencies.
- USACE permit tracking system for self-reports is inadequate. For example, it cannot alert USACE to missing reports.
- USACE's jurisdiction under section 404 of the Clean Water Act is limited to 3 nautical miles offshore in Southeast Florida.
- USACE jurisdiction under section 10 of the Rivers and Harbors Act can be much greater due to the Outer Continental Shelf Lands Act.
- When NMFS issues a biological opinion, USACE incorporates this by reference into the permit, instead of included special conditions designed to fulfill the desired biologically conditions required.

Seeling: CCCL program also now uses the same rule as for sedimentation and sand criteria, though the rules for color are still the same, we are trying to change them.

Gene Chalecki: DEP is now in the rule making stage to implement the sedimentation and sand criteria from nourishment projects into CCCL program.)

Ruppert then concluded with summary recommendations:

- Inter-agency work to better coordinate special conditions while maintaining flexibility for site-specific resource concerns.
- Increased joint site visits (NMFS, USACE, DEPs) to promote better resource protection and closer professional relations among agencies.
- Expand cooperation between NMFS and USACE, and DEP on information gathering and sharing.
- Increased resources to agencies for compliance and enforcement activities.
- Development of administrative authorities for USACE to impose administrative penalties for violations of section 10 of the Rivers and Harbors Act.
- Creation of improved permit tracking system for USACE.
- Develop detailed tracking system for monitoring and compliance reports at all agencies that can be integrated into the SEFCRI permit tracking project.

- Creations of exceptions to Florida's Sunshine laws for compliance and enforcement information shared USACE with DEP.
- Creation of general criteria defining projects, which should use independent monitoring.

The following is a discussion in response to recommendation to consider Sunshine Law exemptions to encourage information gathering between the USACE and the State. Several participants felt that not all information USACE sought to protect really deserved protection from public disclosure.

Gregg: USACE does not want environmental entities to cause hassle. What USACE wants to keep is not what DEP and FWC keeps. Sometimes this is understandable, sometimes it is not.

Seeling: Had encounter with USACE where USACE refused to provide GIS data due to certain agreements with contractors. USACE has *silent inspector* monitoring device that tracks the position of the dredge head but won't give that info.

Gregg: Draft EIS will be available to the general public; there should not be any reason for them to not provide necessary data.

Questions were then invited and discussed until the break.

MacLeod: What is the sense of DEP South District's ability to track? We use in-house system but districts use others

Charlotte Hand: We have upcoming dates, specific conditions that require actions with time requirements. It makes sense since they will not track it then why monitoring it at all?

Break -15min

After the break, Tim Roth joined the phone meeting by phone

Applying Existing Information to Enhance Compliance and Enforcement

Ruppert proposed three general topics for general discussions. These included:

- Intra-agency efforts to develop special condition templates.
- Inter-agency discussion of template special conditions.
- Increased inter-agency coordination compliance and enforcement.

He then invited open discussion.

MacLeod: DEP is in process of developing templates. DEP does not have a timeline for when they might be completed, but we do have a person of contact regarding this: Lainie Edwards. Templates will definitely help, because the conditions are just getting into the new permits; templates are like a starting point. One potential problem is that the person in charge of this effort—Lainie Edwards—is losing two employees she manages, so she will likely be assuming their duties. This might slow or stop progress on this project.

MacLeod: The composite special conditions developed in Kelly Logan's report have been added into the list of potential template special conditions in the database that DEP is developing, and we are building our own based on it.

Gregg: FWC views development of template recommendations and special conditions as a form of workload reduction and efficiency.

(on topic of "date certain")

Hand: Limited capabilities within the database for dates. DEP often has to put in arbitrary dates and input actual dates that are trigger points for monitoring once the project starts. Have to do this because we usually use the date of commencement as the first date in the database, and we do not know exactly what that date is until it occurs.

Jim Martinello: There are several options available in the database

Seeling: We are approaching this to prevent violation

Gregg: How do you decide the dates for construction?

Halbert: The first compliance position is very important. We use the "Notice of Commencement" as the beginning date.

MacLeod: We are getting better at receiving the "Notice of Commencement" since most of the consulting firms are becoming more accustomed to the need to submit this document.

Seeling: Permittee and contractor, along with FWC

Martinello: JCP, who is receiving the deliverables, has been an issue for years for permitting. Project management side is also having problems getting the report. Part of what DEP is doing to fix this problem is working hard to get permittees (and all DEP employees) to understand that all communication from permittees *after they receive a permit* must be with a single point-of-contact with DEP, which is the Compliance Officer (who is Charlotte Hand).

MacLeod: Tracking system we have works better for single permit; we make request every year or two to update the permitting requirements

Gregg: Trying to keep everything simple by phase. We have templates for comments, and special conditions, how to get to a particular agency for input. We do not yet have a timeline, RPI (rapid process improvement), so timeline decision is one of our priorities. DEP and USACE are the primary agencies that we comment.

Seeling: Lainie Edwards is keeping up with the conditions, and for these special conditions.

MacLeod: USACE sometimes is not aware that modifications are made to a permit. We decide on who the changes will be notified to, if it is significant enough. Eg. Sea turtles will be addressed to FWC.

Seeling: FWC is almost always notified, or forwarded a copy of change, as well as to the USACE. USACE has a different style for the processors from DEP.

MacLeod: I understand that USACE have specific persons for specific projects. Some people on the list might never really know what is in the report. There have been some disconnections from USACE. Even when DEP sends notice of permit modifications to USACE, DEP never usually hears anything back, so DEP unsure if USACE really got the message.

Gregg: What about a minor modification?

Seeling: Just the same as any modifications, need to be forwarded to USACE.

The following dialogue relates to discussion of whether there is any merit to formalizing inter-agency consultations that are currently informal

Gregg: Should formalize the process due to employee turnover; otherwise it is hard for new employees to pick up what they should be doing.

Ruppert: Does this mean “formalization” is necessary or just some sort of internal policy that can be implemented without regulatory or statutory changes?

All: internal policy changes can sufficiently address the issue of employee turnover.

Lisa: Spoke in favor of formalization because people come and go, when you have a new employee, you can tell them that here is the process you need to go through, which person to consult on what subject, and even if it is just purely informational. If it is not something that is formalized then it would be up to the good employees who really care about the job to actually keep the process moving forward and to maintain the interagency coordination.

Ruppert: Wouldn't that still be considered informal if it only formalized within an agency? I was thinking of more of an actual rule.

Seeling: I am not sure if I am ready to concur that it should be formalized. There are many cases where it would not help much at all. They have criteria that are quite different from our criteria.

But in the general big picture like mitigation it would be helpful to formalize. USACE often does not initiate consultation until the process is near completion. He then made commenting on how consultation delays can occur when a “take” is made under the Endangered Species Act.

MacLeod: DEP is currently developing an internal guidance document that will be used to inform new employees of the processes, agencies, and people involved in the information consultation network.

Halbert: FWC will pick up the information from the drop box periodically and keep track on the changes, it is important to get those reports.

Gregg: She serves as the FWC’s single point of contact for all consultation/commenting. This is better, but still has some problems especially with the DEP/WMD ERP program since they were accustomed to going to the Imperiled Species Division of FWC to seek ESA consultation.

Hand: USACE sometimes has more ability to enforce than we do, from Section 404. For example, last year in Palm Beach County, USACE had several enforcement actions going on that made the case stronger.

Gregg: Typically we cross enforcement with NMFS, we will support NMFS wherever we can if NMFS takes lead on the case. NMFS has much stronger regulations, compliance, and enforcement than ours, such as fishery violations.

Ruppert offered his email address on the whiteboard for further commenting.

Lindeman closed this session by going through slides representing a draft version of awareness training materials, with a focus on efforts to learn the permitting and regulatory audiences better. He provided background on this section emphasizing that Phase One and Phase Two interviews determined considerable agency interest in receiving materials for permitting compliance personnel. Agency had similar and dissimilar interests in outreach materials including a PPT presentation for in-house training as well as materials that could be used in the field.

He noted the prior development of a variety of coral outreach materials by other SEFCRI projects, as well as materials generated external to SEFCRI. Most of these materials were developed for the general public and are not specific to agency personnel.

He provided slide examples to some of these materials, including both user friendly and user-unfriendly documents. He emphasized a desire to make documents user friendly and agency driven.

Gregg: Are you using MICCI project 1 materials?

Lindeman: Ruppert is bringing those documents into his work; we will bring them into our work as well

Gregg: Most, but not all, scientific research permits go to FWC because the research activity usually falls under the "*de minimis*" exemption for the ERP.

Lindeman provided slides on coral identification from a well-known PowerPoint file developed by V. Kosmynin and Christopher Boykin. He stated that the detail on coral taxonomy available in this existing file not need to be repeated in these awareness materials developed in this project, but that some of the slides maybe used and that file would be referenced in products in awareness materials from this project. He also noted that agencies had asked for information on hardbottom and worm rock. Therefore, he presented several draft slides for group comment on these habitats.

Gregg: Are you developing materials specifically for permitting personnel?

Lindeman: We are doing both permitting and field focused materials for permitting Yes for compliance and enforcement personnel.

He closed the section on awareness training materials by seeking more detailed information on the specific audiences that the materials are going to address. He stated that the project was not responsible to actually administer training and therefore needed more information on numbers of staff per agency that require training. Also, whether that training will be in the office or field? And who would actually conduct the training?

He put a base slide with a table soliciting this information in cells in the table by specific agency. He also solicited points of contact from each agency for follow-ups on awareness training materials. Previously, Linda Knoeck indicated that she would serve as a point of contact of the USACE Palm Beach Gardens office and Jason Andreotta stated that he would serve as the point of contact of the DEP Southeast District.

Lindeman: What offices shall we include and how many people in each office for the training materials?

Seeling: For training material for Coastal and Aquatic Managed Areas (CAMA) and DEP's Bureau Beaches & Coastal Systems (BBCS) would include: seven at desk, seven in the field, Steven MacLeod will be the point of contact.

Kendall: South District Office: Gas Rios (FL Keys) is point of contact, covering the FL Keys and southwest of FL; Lucy Blaire is PoC for southwest region excluding keys,

Todd McCabe: Confirmed with Dona that Southeast District covers Miami-Dade County. And Southeast District includes Monroe County.

Kendall: For my office, the DEP Submerged Lands and Environmental Resources (SLER) in Tallahassee: two for desk and two for on field. Dona Kendall is PoC.

Unknown: State parks cover from Dade and Martin due to limited resources to get the projects done. Jeff Raily might be the PoC.

Gregg: In terms of FWC, we are in the a process of developing a regulatory handbook for marine life forms which also includes the corals and coral related species, so we are already in the process of developing a regulatory law enforcement handbook for our law enforcement personnel. I can already think of a couple of people who would benefit from using the training materials. So about five people for FWC; Lisa Gregg is PoC.

Gregg and Tim Roth: Broward County seems to have its own permitting program, need to reconfirm this. DOT's bridge construction issues and permits

This section of the morning was concluded.

Public Comment

There were no public representatives present and no public comments were provided.

Meeting Close and Summary

Lindeman told the attendees that Ruppert and he would follow up as necessary. All attendees were thanked for their time and ideas. All attendees were encouraged to provide any additional ideas and comments that may occur later. The meeting was adjourned.